2013

First Semi-Annual Industrial User Pretreatment Compliance Report

Tributary Agencies

Cities of:
San Jose,
Santa Clara
And Milpitas

Cupertino
Sanitation District

West Valley Sanitation District
(Campbell, Los Gatos, Monte Sereno and Saratoga)

County Sanitation
Districts 2-3

Administered by the
Environmental Services
Department
City of San José

Administered by the
Environmental Services Department
City of San José

San Jose
Santa Clara
Water Pollution
Control Plant

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

Environmental Services Department
SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT

WATERSHED PROTECTION

CONTRIBUTING AGENCIES

CITY OF SAN JOSÉ
CITY OF SANTA CLARA
COUNTY SANITATION DIST. NO 2 - 3
BURBANK SANITARY DISTRICT
CUPERTINO SANITARY DISTRICT
CITY OF CUPERTINO
CITY OF MILPITAS
WEST VALLEY SANITATION DISTRICT
CITIES OF CAMPBELL, LOS GATOS
MONTE SERENO AND SARATOGA

July 31, 2013

Mr. Bruce Wolfe
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

SUBJECT: San Jose/Santa Clara Water Pollution Control Plant
2013 First Semi-Annual Industrial User Pretreatment Report
NPDES Permit No. CA-0037842

Dear Mr. Wolfe:

Enclosed is the San Jose/Santa Clara Water Pollution Control Plant 2013 First Semi-Annual Industrial User Pretreatment Report, which includes laboratory data on influent, effluent, and sludge monitoring results; compliance tables; and an update on our compliance with pretreatment program requirements.

The City of San José (City) faces the challenge of preserving a portion of one of the most important estuaries in the United States, located directly adjacent to a complex urban community. As lead agency of a regional joint powers authority, the City operates the San Jose/Santa Clara Water Pollution Control Plant (Plant), and provides wastewater treatment to over 1.4 million residents and 16,000 businesses, including many of the leading computer and electronics manufacturing companies that make up "Silicon Valley." The City is also responsible for limiting the Plant effluent discharges to the South San Francisco Bay (South Bay), as required by its National Pollutant Discharge Elimination System (NPDES) Permit. The Plant continues to maintain significant industrial pollutant reductions achieved over the years by enforcing stringent regulations, limiting the amount of pollutants that industries can discharge into the sanitary sewer system, and implementing aggressive pollution prevention and recycle and reuse programs.

This report also includes an update to the 2012 Pretreatment Compliance Inspection. All of the facility specific and procedural issues have been addressed through inspections, enforcement, and procedural changes. This report includes an update to the response and work plan for action items.

The 2013 First Semi-Annual Industrial User Pretreatment Report is submitted in accordance with Provision E 5 of the Regional Board Order No. R2 2009-0038. Contained in the First Semi-Annual Report is a listing of all Significant Industrial Users (SIUs) that had any violation of federal or local standards during the first and second quarters of 2013. The parameters violated, comments on corrective measures, and enforcement actions taken on these SIUs are given in this report. The definitions used to determine significant non-compliance are contained in the 2012 Annual Pretreatment Program Report. These definitions are consistent with those found in 40 CFR 403.8(f)(2)(vii)(A-H) and are designated as Significant Non-compliance Federal and Significant Non-compliance Local.

At the end of the second quarter of 2013, the Plant was monitoring 272 industries, of which 158 were Significant Industrial Users and 114 were Non-Categorical Industries discharging under 25,000 gallons per day. Of the 158 Significant Industrial Users, 127 were Categorical Industrial Users, 17 were Zero Discharge Categorical Industrial Users, and the remaining 14 were classified by their quantity of discharge. The total number varies throughout the year as companies close or additional dischargers are identified. Table 1 is a summary of the compliance performance for all Significant Industrial Users.

Table 1: Compliance Performance of Significant Industrial Users in the SJ/SC WPCP Tributary Area

Category	1st Quarter 2013		2nd Quarter 2013	
	Federal	Local	Federal	Local
Consistent compliance	94.4%	91.9%	97.5%	92.5%
Inconsistent compliance	4.4%	6.2%	0.6%	7.5%
Significant Non-compliance	1.2%	1.9%	1.9%	0%

We continue to monitor all industrial dischargers and permitted commercial sources to ensure that all violations are identified and corrected as soon as possible. Appropriate enforcement actions are taken if violations persist, and additional compliance measures are pursued with all significant violators.

We look forward to working with you on the continuing process of adapting our programs based on new information and new opportunities. If you have any questions about these reports, please contact Sharon Terwilliger, Acting Senior Environmental Inspector, at (408) 793-5376.

Sincerely,

KERRIE ROMANOW
Director, Environmental Services

cc: Ken Greensberg, USEPA Region 9
Phil Isorena, SWRCB
Michael Chee, RWQCB

SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT
2013 FIRST SEMIANNUAL INDUSTRIAL USER VIOLATION REPORT

COVER SHEET

NPDES Permit Holder or Sewer Authority Name	The Cities of San José and Santa Clara
Report Date	July 31, 2013
Period Covered by This Report	From 01/01/2013 to 06/30/2013
Period Covered by Previous Report	From 07/01/2012 to 12/31/2012
Name of Wastewater Treatment Plant	San Jose/Santa Clara Water Pollution Control Plant
NPDES Permit Number	CA-0037842

Person to contact concerning information contained in this report:

Name	Sharon Terwilliger
Title	Acting Senior Environmental Inspector
Mailing Address	200 East Santa Clara St., 7th Floor, San Jose, CA 95113
Telephone Number	(408) 793-5376

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete.

Fukuda

Napp Fukuda
Deputy Director
Environmental Services Department
Watershed Protection

Date 7/29/2013

SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT
2013 FIRST SEMIANNUAL INDUSTRIAL USER VIOLATION REPORT

I. SAMPLING PROCEDURES

A. SAMPLE LOCATIONS

1. **Influent -** Samples of influent are collected from the raw sewage wet well by automatic sampler and grab sampling. This location corresponds to Station INF-001 as set forth in the Facility's NPDES Permit, CA-0037842.
2. **Effluent -** Samples of effluent are collected from the effluent wet well by automatic sampler and by grab sampling. This location corresponds to Station EFF-001 as set forth in the Facility's NPDES Permit, CA-0037842.
3. **Biosolids –** No samples for sludge were available for collection from the Sludge Management Facility's drying beds.

B. COLLECTION TIMES

1. **Automatic Sampling -** Automated sampling is performed using flow-proportioned, composite samplers that operate from midnight to midnight on consecutive days. Influent and effluent samples are taken during the same 24-hour period.
2. **Grab Sampling -** Grab samples are collected at a time corresponding to the Facility's maximum peak flow at 1230 hours.
3. **Grab Composite Sampling** – Grab samples are collected in six hour intervals at 00:30, 06:30, 12:30 and 18:30. The samples are combined in the Laboratory using flow weighing parameters.
4. **Biosolids Sampling -** Sludge samples are collected if available, in March and September and within the same twenty-four hour period as when influent and effluent samples are collected.

C. COLLECTION METHOD

1. **Direct Collection -** Wastewater samples for volatile organic compounds, semi-volatile organics, mercury and cyanide analyses are composited with a minimum of four (4) discrete grab samples collected every six hours during a 24-hour sampling event. The samples are composited based on flow in the laboratory prior to analysis.
   Samples for the analysis of volatile organic compounds (VOCs) are collected directly into 40-mL glass vials with Teflon septum screw caps. The vials are filled to overflowing before being capped to avoid any headspace.
   Semi-volatile organic compounds (BNA-base, neutral, acids) are collected directly into 1-liter amber glass bottles. Samples are refrigerated and stored in the dark after collection.
   Mercury samples are collected directly into 1-liter acid rinsed amber glass bottles utilizing clean hands techniques.
   Cyanide samples are collected in 2 liter plastic amber containers.
2. **Automatic Collection -** Wastewater samples for influent and effluent metal analyses, except for mercury analysis, are collected using automated composite samplers. Samples are collected based on flow into plastic containers within refrigerated samplers. Samples are then refrigerated and stored in the dark after collection.
3. **Biosolids Collection –** Dry and wet weather sludge samples are collected from the Facility's drying beds. Twenty grab samples are collected and then composited into a single sample for subsequent analyses. Samples are collected by employing a grid pattern map for sample locations. Sludge samples are collected directly into borosilicate glass.

D. STORAGE, PRESERVATION, AND HOLDING TIMES

1. **EPA Method 624 -** Samples for volatile organic compound analysis are stored in 40-ml glass vials with septum and Teflon-lined caps and stored at four to six degrees centigrade. Sodium thiosulfate is used to remove residual chlorine when necessary. Samples are analyzed within three days.
2. **EPA Method 625 -** Samples for semi-volatile organic compound analysis are stored in amber glass containers, with Teflon-lined caps at four to six degrees centigrade. Sodium thiosulfate is used to remove residual chlorine when necessary. Samples are extracted within seven days and analyzed within thirty days.
3. **Influent and Effluent Metals -** Samples for influent and effluent metal analysis, except for mercury, are stored in plastic or glass containers at four to six degrees centigrade. Samples are preserved with nitric acid to a $pH < 2$ and analyzed within six months. Samples for total mercury analysis are preserved with 5 mL/L of BrCl solution and analyzed within 90 days.
4. **Influent and Effluent Cyanide** – Samples for influent and effluent cyanide analysis are stored in 2-liter amber plastic bottles at four to six degrees centigrade. Prior to preservation with sodium hydroxide to $pH>12$, samples are checked for oxidizers and sulfides.

II. <u>METHOD OF SAMPLE DECHLORINATION</u>

A. EFFLUENT SAMPLES

Dechlorination of effluent samples is not required since the samples are collected downstream of the Facility's dechlorination process. The treatment plant uses sulfur dioxide injection for dechlorination.

B. INFLUENT SAMPLES

Influent may be pre-chlorinated at various times as an odor control measure. Sodium thiosulfate is used as a dechlorinating agent when necessary.

III. <u>SAMPLE COMPOSITING</u>

A. INFLUENT AND EFFLUENT SAMPLES

Priority Pollutant Metals **-** Samples for priority pollutant metals analysis, except for mercury, are flow-proportion composited by automatic samplers.

Volatile organics, semi-volatile organics, mercury and cyanide samples are collected by grab sampling every six hours and composited by flow weighing using hourly flow averages.

B. BIOSOLIDS

Twenty grab samples are hand composited and spilt into appropriate fractions for each of the individual analyses required.

IV. <u>DATA VALIDATION</u>

A. METHOD BLANKS

Method blanks are routinely analyzed to demonstrate that the entire laboratory analytical process and system does not introduce significant contaminant levels. A method blank is included in each sample preparation batch as required by the referenced analytical method.

B. TRAVEL BLANKS

Travel blanks are routinely submitted with collected wastewater samples to assess any significant contaminant levels that maybe introduced from the field or associated handling procedures during sample collection or transportation.

C. REPLICATES

Field replicates are routinely collected and analyzed to determine the precision of the sampling process.

Laboratory replicates are routinely analyzed to determine the precision of the analytical process.

D. SPIKED SAMPLES

Laboratory samples are routinely spiked with a known amount of the analyte(s) of interest to assess any sample matrix interferences or effects and determine the accuracy of the analytical process or system. The addition of a matrix spike duplicate will assess the precision of analytical process.

E. QA/QC CRITERIA

Acceptance criteria for the above listed chemical parameters follow protocol and/or guidelines of the EPA (40 CFR 136, EPA SW-846, EPA 600/4-79/020) and of the California Department of Health Services.

F. ANALYTICAL METHODOLOGY

Methods and techniques used for all chemical determinations strictly adhere to procedures published by the EPA (40 CFR 136, EPA SW-846, EPA 600/4-79/020) or as published in the latest approved edition of Standard Methods for the Examination of Water and Wastewater.

G. CERTIFICATION STATEMENT [ATTACHED]

V. SAMPLE RESULTS

A. WET-WEATHER SEASON SAMPLING – MARCH, 2013

See Appendix I - Data Tables.

VI. DISCUSSION OF RESULTS

A. INFLUENT DISCUSSION

Base Neutral Acids (BNA)

Bis(2-ethylhexyl)phthalate is a common plasticizer for polymeric materials. Bis(2-ethylhexyl)phthalate is used primarily as a plasticizer during polyvinyl chloride and polymer production and is likely released into wastewater after water contact with plastic materials. **Diethyl phthalate** is ubiquitous in the environment based on its many applications. It is used as a plasticizer in many products and as a solvent for cosmetics, personal care products and insecticides. **Phenol** is used as a precursor in a number of industrial synthesis applications to produce resins, plastics, surfactants, detergents, emulsifiers, insecticides and medical antiseptics. Other uses of phenol include anesthetic applications in ointments, ear and nose drops and cold sore lotions; and as a slimicide for bacteria and fungi growth.

All of the above compounds are typically measured in this Facility’s influent.

Volatile Organic Compounds (VOCs)
Chloroform may enter the environment through its use as an industrial solvent, extracting reagent, cleaning agent and as a by-product from the chlorination of water, wastewater, and cooling water. Artificial or indirect sources of chloroform are primarily as a chlorinated by-product in water treatments, paper mills, and combustion of leaded gasoline. **Toluene** is used as a general purpose solvent, fuel additive, and chemical manufacturing constituent. Considerable amounts are discharged during the emissions, volatilization, storage, transport, and disposal of fuels and oils. **1, 2 Dichlorobenzene** uses include a solvent for carbon removal, degreaser and metal cleaner; an intermediary in the syntheses of herbicides; and as an insecticide and fumigant.

Chloroform and toluene are typically detected in this Facility's influent. This is the first detectable value reported for 1,2-dichlorobenzene in the last five years of monitoring the Facility's influent.

Priority Pollutant Metals
All priority pollutant metals measured during this period were at concentrations characteristic of influent typically received by this Facility.

B. EFFLUENT DISCUSSION

Base Neutral Acids (BNA)
All priority pollutant semi-volatile organics for base, neutral and acid compounds measured during this period were reported as non-detect for this Facility's effluent.

Volatile Organic Compounds (VOCs)
Chloroform enters \into the wastewater stream primarily as an inadvertent by-product formed during the chlorination treatment processes of drinking water and wastewater. Chloroform may also enter the environment from artificial sources including automobile exhaust, extractants, solvents, dry cleaning agents, fumigants, and synthetic rubber. Primary loss of chloroform occurs by evaporation into the atmosphere. This compound is typically detected in this Facility's effluent. All detectable concentrations are well below applicable Water Quality Objectives.

Priority Pollutant Metals
All priority pollutant metals were measured at concentrations characteristic of effluent discharged by this Facility. All priority pollutant metals detected in the effluent were below NPDES permit limitations.

C. BIOSOLIDS DISCUSSION

There were no available biosolids for collection from this Facility for the current semi-annual monitoring period.

QA/QC CERTIFICATION STATEMENT

Quality Assurance/Quality Control validation data was reviewed for each of the analytical measurements performed and deemed acceptable. Acceptance criteria were established using methodologies from the latest edition of Standard Methods for the Examination of Water and Wastewater, from EPA references (40 CFR 136, EPA SW-846, EPA 600/4-79/020), or as specified by the California Department of Health Services.

7/12/13

Noel Enoki
Environmental Laboratory Manager

Appendix I

DATE	SAMPLE TYPE	METHOD	UNITS	Dichlorodifluoromethane	Chloroethane	Vinyl Chloride	1,1-Dichloroethene	Methylene Chloride	Trichlorofluoromethane	1,1-Dichloroethane	Trans-1,2-dichloroethene	Chloroform	1,2-Dichloroethane	1,1,1-Trichloroethane
3/5/2013	Influent	EPA 624	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**3.5**	<2.0	<2.0
3/5/2013	Effluent	EPA 624	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0
NA	Sludge	EPA 8260B	µg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Influent	EPA 624	µg/L											
	Effluent	EPA 624	µg/L											
	Sludge	EPA 8260B	µg/Kg											
	CTR Limit		**ug/L**	**NA**	**NA**	**525**	**3.2**	**1600**	**NA**	**NA**	**140,000**	**470**	**99**	**NA**

DATE	SAMPLE TYPE	METHOD	UNITS	Phenol	Bis (2-Chloroethyl) Ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	Bis (2-Chloroisopropyl) Ether	N-Nitrosodi-n-Propylamine	Hexachloroethane	Isophorone	2-Nitrophenol
3/5/2013	Influent	EPA 625	µg/L	**14.6**	<1.1	<1.1	*	*	*	<2.2	<1.1	<1.1	<1.1	<1.1
3/5/2013	Effluent	EPA 625	µg/L	<1.1	<1.1	<1.1	*	*	*	<2.2	<1.1	<1.1	<1.1	<1.1
NA	Sludge	EPA8270C	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Influent	EPA 625	µg/L											
	Effluent	EPA 625	µg/L											
	Sludge	EPA8270C	mg/Kg											
	CTR Limit		**µg/L**	**4,600,000**	**1.4**	**400**	**2,600**	**2,600**	**17,000**	**170,000**	**1.4**	**8.9**	**600**	**NA**

SAMPLE TYPE	DATE	Carbon Tetrachloride	2-Chloroethyl Vinyl Ether	1,2-Dichloropropane	Cis-1,3-dichloropropene	Trans-1,3-dichloropropene	Trichloroethene	Benzene	Toluene	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Chlorobenzene	Ethylbenzene	Xylenes,Total
Influent	3/5/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**4.4**	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0
Effluent	3/5/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
Sludge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Influent															
Effluent															
Sludge															
CTR Limit		**4.4**	**NA**	**39**	**1,700**	**1,700**	**81**	**71**	**200,000**	**42**	**11**	**8.85**	**21,000**	**29,000**	**NA**

SAMPLE TYPE	DATE	2,4-Dimethylphenol	Bis (2-Chloroethoxy) Methane	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene	Hexachlorobutadiene	4-Chloro-3-Methylphenol	2,4,6-Trichlorophenol	2-Chloronaphthalene	Acenaphthylene	Dimethylphthalate	2,6-Dinitrotoluene	Acenaphthene	2,4-Dinitrophenol
Influent	3/5/2013	<1.1	<2.2	<1.1	<1.1	<0.21	<1.1	<1.1	<1.1	<1.1	<0.21	<2.2	<1.1	<0.21	<5.5
Effluent	3/5/2013	<1.1	<2.2	<1.1	<1.1	<0.055	<1.1	<1.1	<1.1	<1.1	<0.055	<2.2	<1.1	<0.055	<5.5
Sludge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Influent															
Effluent															
Sludge															
CTR Limit		**2,300**	**NA**	**790**	**NA**	**NA**	**50**	**NA**	**6.5**	**4,300**	**NA**	**2,900,000**	**NA**	**2,700**	**14,000**

SAMPLE TYPE	DATE	1,4-Dichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	Bromomethane	Chloromethane	Bromodichloromethane	Dibromochloromethane	Bromoform
Influent	3/5/2013	<2.0	**51.4**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Effluent	3/5/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sludge	NA	NA	NA	NA	NA	NA	NA	NA	NA
Influent									
Effluent									
Sludge									
CTR Limit		**2,600**	**17,000**	**2,600**	**4,000**	**NA**	**46**	**34**	**360**

SAMPLE TYPE	DATE	4-Nitrophenol	2,4-Dinitrotoluene	Fluorene	Diethyl Phthalate	4-Chlorophenyl Phenyl Ether	4,6-Dinitro-2-Methylphenol	4-Bromophenyl Phenyl Ether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Di-n-Butyl Phthalate	Fluoranthene	Pyrene
Influent	3/5/2013	<5.5	<5.5	<0.21	**3.0**	<1.1	<5.5	<1.1	<1.1	<5.5	<0.21	<0.21	<5.5	<0.21	<0.21
Effluent	3/5/2013	<5.5	<5.5	<0.055	<2.2	<1.1	<5.5	<1.1	<1.1	<5.5	<0.055	<0.055	<5.5	<0.055	<0.055
Sludge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Influent															
Effluent															
Sludge															
CTR Limit		**NA**	**9.1**	**14,000**	**120,000**	**NA**	**765**	**NA**	**0.00077**	**8.2**	**NA**	**110,000**	**12,000**	**370**	**11,000**

SAMPLE TYPE	DATE	Butyl Benzyl Phthalate	Benzo[a]anthracene	Hexachlorocyclopentadiene	Chrysene	Bis(2-Ethylhexyl)Phthalate	Di-n-Octyl Phthalate	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	Dibenz[a,h]anthrecene	Benzo[ghi]perylene
Influent	3/5/2013	<5.5	<0.21	<5.5	<0.21	**16.4**	<5.5	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Effluent	3/5/2013	<5.5	<0.055	<5.5	<0.055	<5.5	<5.5	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055
Sludge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Influent													
Effluent													
Sludge													
CTR Limit		**5,200**	**0.049**	**17000**	**0.049**	**5.9**	**NA**	**0.049**	**0.049**	**0.049**	**0.049**	**0.049**	**NA**

DATE	As (influent)	As (effluent)	Cd (influent)	Cd(effluent)	Cr (influent)	Cr (effluent)	Cu (influent)	Cu (effluent)	Pb (influent)	Pb (effluent)	Hg (influent)	Hg (effluent)	Ni (influent)	Ni (effluent)	Se (influent)	Se (effluent)	Ag (influent)	Ag (effluent)	Zn (influent)	Zn (effluent)	Cyanide (influent)	Cyanide (effluent)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1/3/2013	2.12	1.04	<0.40	<0.10	3.92	0.45	108	3.15	3.82	0.16	0.135	0.00163	8.57	4.52	1.62	0.55	0.58	<0.10	162	22.2	<3.0	<3.0
2/4/2013	1.77	1.11	<0.40	<0.10	3.78	0.42	117	4.85	2.67	0.17	0.103	0.00214	8.50	4.70	1.60	0.54	0.52	<0.10	158	30.2	<3.0	<3.0
3/4/2013	1.64	1.10	<0.40	<0.10	4.05	0.59	104	5.52	7.47	0.28	n.a.	n.a.	20.0	6.15	n.a.	n.a.	0.62	<0.10	153	28.3	n.a.	n.a.
3/5/2013	1.84	1.08	<0.40	<0.10	5.05	0.58	117	5.16	5.33	2.62	0.0916	0.00176	10.1	7.76	1.91	0.50	0.79	<0.10	172	27.9	<3.0	<3.0
3/6/2013	2.31	1.32	<0.40	<0.10	4.95	0.62	114	5.30	4.79	0.78	n.a.	n.a.	10.3	7.19	n.a.	n.a.	0.65	<0.10	174	30.8	n.a.	n.a.
4/5/2013	2.00	1.00	<0.40	<0.10	5.50	0.47	133	3.07	3.51	0.15	0.0951	0.00170	12.3	5.36	3.18	0.54	1.11	<0.10	181	20.5	<3.0	<3.0
5/8/2013	2.25	0.94	<0.40	<0.10	5.31	0.38	123	2.61	4.31	0.25	0.113	0.00137	10.4	5.07	1.37	0.41	0.66	<0.10	176	19.0	<3.0	<3.0
6/3/2013	2.05	1.06	<0.40	<0.20	5.17	0.39	153	2.36	3.76	<0.20	0.0906	0.00117	10.80	6.39	1.63	0.52	0.99	<0.20	213	20.0	<3.0	<3.0

n.a. = not available

DATE	As (influent)	As (effluent)	Cd (influent)	Cd(effluent)	Cr (influent)	Cr (effluent)	Cu (influent)	Cu (effluent)	Pb (influent)	Pb (effluent)	Hg (influent)	Hg (effluent)	Ni (influent)	Ni (effluent)	Se (influent)	Se (effluent)	Ag (influent)	Ag (effluent)	Zn (influent)	Zn (effluent)	Cyanide (influent)	Cyanide (effluent)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

ESD Laboratory MDLs

Analyte	Method	MDL	Analyte	Method	MDL
		ug/L			ug/L
As(influent)	EPA 200.8	0.095	**Ni(influent)**	EPA 200.8	0.057
As(effluent)	EPA 200.8	0.095	**Ni(effluent)**	EPA 200.8	0.057
Cd(influent)	EPA 200.8	0.016	**Se(influent)**	EPA 200.9	0.0075
Cd(effluent)	EPA 200.8	0.016	**Se(effluent)**	EPA 200.9	0.0075
Cr(influent)	EPA 200.8	0.073	**Ag(influent)**	EPA 200.8	0.045
Cr(effluent)	EPA 200.8	0.073	**Ag(effluent)**	EPA 200.8	0.045
Cu(influent)	EPA 200.8	0.017	**Zn(influent)**	EPA 200.8	0.65
Cu(effluent)	EPA 200.8	0.017	**Zn(effluent)**	EPA 200.8	0.65
Pb(influent)	EPA 200.8	0.061	**Cyanide(influent)**	SM4500-CN E	0.4
Pb(effluent)	EPA 200.8	0.061	**Cyanide(effluent)**	SM4500-CN E	0.4
Hg(influent)	EPA 1631	0.000022			
Hg(effluent)	EPA 1631	0.000022			

MDL = Method Detection Limit

RAW DATA

[available upon request]

Semi-Annual Industrial User Violation Report

San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status				Date Violation occurred	Taken By	Para-meter	Samples in Violation						Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
	Current		Previous			POTW/ IU/ OTHER		Reported Level (mg/L)			Discharge Limit (mg/L)				
	Q2 2013	Q1 2013	Q4 2012	Q3 2012				Max	Fed Avg	Local Avg	Federal Max	Federal Avg	Local Max	Local Avg		
Accu-Burr Metal Finishing, Inc. 1522 Berger Dr San Jose, CA 95112 SJ-562Z **Flow =** 0 40 CFR 464 Subpart A	NS	IL	NS	NS	1/25/2013	OTHER									WN	The violation was for late submittal of a Wastewater Discharge Permit Application that was due on 12/27/2012, but was not received until 1/25/2013. The IU has committed to timely submittal of Wastewater Discharge Permit Applications in the future.
Advanced Electropolishing Technology 398 Railroad Ct Milpitas, CA 95035 MI-120B **Flow =** 677 (on 11/16/12) 40 CFR 433.17 Subpart A	SNF/ IL	IF/ IL	CC	CC	2/28/2013	OTHER									WN	The violation was for improper use of dilution water – adding deionized water to the final sample point. The cause of the violation was determined to be improper procedures in place for cleaning the sample point. The IU responded to the violation by implementing new procedures for batch discharge and sample point cleaning.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/IU/OTHER	Para-meter	Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Advanced Electropolishing Technology 398 Railroad Ct Milpitas, CA 95035 MI-120B **Flow =** 677 (on 11/16/12) 40 CFR 433.17 Subpart A	SNF/ IL	IF/ IL	CC	CC	4/25/2013	POTW	Cr	3.94			2.77		1.0		WN	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable chromium concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be a malfunctioning filter press. The IU responded to the violations by repairing the filter press and implementing routine inspection of the filter press. An inspection on 5/29/2013 verified filter press maintenance. The results of subsequent samples collected by the IU on 5/30/2013 and collected by the City on 6/13/2013 were in compliance.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max / Fed Local Avg	Discharge Limit (mg/L) Federal Max Avg / Local Max Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Advanced Electropolishing Technology 398 Railroad Ct Milpitas, CA 95035 MI-120B **Flow =** 677 (on 11/16/12) 40 CFR 433.17 Subpart A	SNF/ IL	IF/ IL	CC	CC	4/30/2013	OTHER	Cr	3.94	1.71	WN	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable chromium concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be a malfunctioning filter press. The IU responded to the violations by repairing the filter press and implementing routine inspection of the filter press. An inspection on 5/29/2013 verified filter press maintenance. The results of subsequent samples collected by the IU on 5/30/2013 and collected by the City on 6/13/2013 were in compliance.
Advanced Metal Finishers, LLC 1291 Oakland Rd San Jose, CA 95112 SJ-606B **Flow =** 14 40 CFR 433.17 Subpart A	IL	CC	IL	CC	11/15/2012	OTHER				WN	The violation was for failing to comply with a permit condition – failure to maintain pretreatment system equipment, as noted during an inspection on 2/22/2013. The cause of the violation was determined to be negligence on the part of the IU. The IU responded to the violation by committing to a more vigilant review of their pH records, as verified during an inspection on 5/17/2013.

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Advanced Metal Finishers, LLC 1291 Oakland Rd San Jose, CA 95112 SJ-606B **Flow =** 14 40 CFR 433.17 Subpart A	IL	CC	IL	CC	4/18/2013	OTHER								NV AC	The violation was for late submittal of an enforcement action response that was due on 3/29/2013, but was not received until 4/18/2013. The IU has committed to timely submittal of reports in the future. $250 fine issued for Discharge Reports - Late Reporting, per San Jose Municipal Code 15.14.695.
Babbitt Bearing Company, Inc. 1170 N 5th St San Jose, CA 95112 SJ-555Z **Flow =** 0 40 CFR 413(L) Subparts A-H	NS	NS	IL	NS	12/21/2012	OTHER								NV	The violation was for late submittal of a Wastewater Discharge Permit Application that was due on 11/12/2012, but was not received until 12/21/2012. The IU has committed to timely submittal of Wastewater Discharge Permit Applications in the future.

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Beam On Technology 2318 Calle de Luna Santa Clara, CA 95054 SC-355B **Flow =** 19 40 CFR 433.15 Subpart A	CC	SNL	CC	NS	2/28/2013	POTW	Ag	2.0					0.7		WN	The violation was for exceeding the local maximum allowable silver concentration limit. The cause of the violation could not be determined. The IU responded to the violation by performing maintenance on the Silver Recovery Unit and flushing and cleaning the sample point. An inspection on 4/22/2013 verified a properly functioning Silver Recovery Unit. The results of subsequent samples collected by the IU on 4/8/2013 and collected by the City on 4/23/2013 were in compliance.
CBR Circuits 116 Minnis Cir Milpitas, CA 95035 MI-013B **Flow =** 1,225 (on 09/26/12) 40 CFR 433.17 Subpart A	CC	IL	IF/ IL	IF/ IL	3/11/2013	OTHER									VW	The violation was for late submittal of additional information for a Wastewater Discharge Permit Application that was due on 2/8/2013, but was not received until 3/11/2013. The IU has committed to timely submittal of Wastewater Discharge Permit Applications in the future.

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Crain Cutter Co. Inc. 1155 Wrigley Way Milpitas, CA 95035 MI-070C **Flow =** 233 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	3/20/2013	IU	Zn	6.70		2.61		2.6		NV	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable zinc concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be sludge accumulation in the sample point. The IU responded to the violations by adding filtration to the treatment, pumping water from the sample point back to the start of treatment, removing sludge from the treatment system and sample point, and testing water before resuming discharge. An inspection on 6/19/2013 verified sludge removal, sample point water treatment, and filtration. Subsequent resamples were delayed due to no discharge to sewer since violation. The results of subsequent samples collected by the IU on 6/11/2013 and collected by the City on 6/21/2013 were in compliance. See 6/4/2013 Compliance Meeting for additional details.

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Crain Cutter Co. Inc. 1155 Wrigley Way Milpitas, CA 95035 MI-070C **Flow =** 233 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	3/31/2013	OTHER	Zn	6.70	1.48	NV	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable zinc concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be sludge accumulation in the sample point. The IU responded to the violations by adding filtration to the treatment, pumping water from the sample point back to the start of treatment, removing sludge from the treatment system and sample point, and testing water before resuming discharge. An inspection on 6/19/2013 verified sludge removal, sample point water treatment, and filtration. Subsequent resamples were delayed due to no discharge to sewer since violation. The results of subsequent samples collected by the IU on 6/11/2013 and collected by the City on 6/21/2013 were in compliance. See 6/4/2013 Compliance Meeting for additional details.

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															CM	At a Compliance Meeting on 6/4/2013, the violations and Compliance Agreement were discussed. The IU responded to the violations by developing a written procedure for tank maintenance and submitting a timeline for treatment system upgrades. In addition to these requirements, the IU is required to collect samples for three months - in June 2013, July 2013, and August 2013, if there is a batch discharged in these months. An inspection on 6/19/2013 verified cleaning of the clarifier tanks and installation of sludge filtration. The results of subsequent samples collected by the IU on 6/11/2013 and collected by the City on 6/21/2013 were in compliance.
Diana Fruit Company 651 Mathew St Santa Clara, CA 95050 SC-002C **Flow =** 98,966 SIU based on flow	CC	IL	CC	CC	3/1/2013	OTHER									VW	The violation was for failing to comply with a permit condition – continuous pH recorder monitoring equipment. The cause of the violation was determined to be incorrect placement of the pH probe. The IU responded to the violation by immediately relocating the pH probe, as verified during an inspection on 3/1/2013.

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Evenstar, Inc. 809 Aldo Ave, # 101 Santa Clara, CA 95054 SC-034B **Flow =** 3,067 (on 11/27/12) 40 CFR 433.17 Subpart A	NS	CC	SNF/ SNL	CC	12/18/2012	OTHER									VW	The violation was for late submittal of a Compliance Agreement action item that was due on 11/30/2012, but was not received until 12/18/2012. The IU has committed to timely submittal of reports in the future.
Flex Interconnect Technologies 1603 Watson Ct Milpitas, CA 95035 MI-116B **Flow =** 2,116 40 CFR 433.17 Subpart A	IL	NS	CC	CC	4/1/2013	OTHER									WN	The violations were for late submittal of an SMR that was due on 3/31/2013, but was not received until 5/14/2013, and for failing to comply with a permit condition – failure to sample with the appropriate sample frequency. The cause of the violations was determined to be negligence on the part of the IU. The IU responded to the violation by collecting samples on 5/1/2013. The IU has committed to timely submittal of reports in the future.

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Flex Interconnect Technologies 1603 Watson Ct Milpitas, CA 95035 MI-116B **Flow =** 2,116 40 CFR 433.17 Subpart A	IL	NS	CC	CC	5/14/2013	OTHER									WN	The violations were for late submittal of an SMR that was due on 3/31/2013, but was not received until 5/14/2013, and for failing to comply with a permit condition – failure to sample with the appropriate sample frequency. The cause of the violations was determined to be negligence on the part of the IU. The IU responded to the violation by collecting samples on 5/1/2013. The IU has committed to timely submittal of reports in the future.

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Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	2/20/2013	POTW	Cu	2.34					2.3		NV	The violations were for exceeding the federal monthly average and local maximum allowable copper concentration limits, for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable lead concentration limits, and for exceeding the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violations were an average of one sample for copper and one sample for lead. The cause of the violations could not be determined. The IU responded to the violations by inspecting the wastewater treatment system, reviewing the discharge logs and resampling. An inspection on 3/15/2013 verified compliance. The results of subsequent samples collected by the IU on 3/19/2013 and collected by the City on 3/26/2013 were in compliance.

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Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	2/20/2013	POTW	Pb	1.23			0.69		0.4		NV	The violations were for exceeding the federal monthly average and local maximum allowable copper concentration limits, for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable lead concentration limits, and for exceeding the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violations were an average of one sample for copper and one sample for lead. The cause of the violations could not be determined. The IU responded to the violations by inspecting the wastewater treatment system, reviewing the discharge logs and resampling. An inspection on 3/15/2013 verified compliance. The results of subsequent samples collected by the IU on 3/19/2013 and collected by the City on 3/26/2013 were in compliance.

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Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	2/20/2013	POTW	Ni	2.23					0.5		NV	The violations were for exceeding the federal monthly average and local maximum allowable copper concentration limits, for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable lead concentration limits, and for exceeding the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violations were an average of one sample for copper and one sample for lead. The cause of the violations could not be determined. The IU responded to the violations by inspecting the wastewater treatment system, reviewing the discharge logs and resampling. An inspection on 3/15/2013 verified compliance. The results of subsequent samples collected by the IU on 3/19/2013 and collected by the City on 3/26/2013 were in compliance.

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Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	2/28/2013	OTHER	Cu		2.34		2.06			NV	The violations were for exceeding the federal monthly average and local maximum allowable copper concentration limits, for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable lead concentration limits, and for exceeding the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violations were an average of one sample for copper and one sample for lead. The cause of the violations could not be determined. The IU responded to the violations by inspecting the wastewater treatment system, reviewing the discharge logs and resampling. An inspection on 3/15/2013 verified compliance. The results of subsequent samples collected by the IU on 3/19/2013 and collected by the City on 3/26/2013 were in compliance.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	2/28/2013	POTW	Pb		1.23		0.43			NV	The violations were for exceeding the federal monthly average and local maximum allowable copper concentration limits, for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable lead concentration limits, and for exceeding the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violations were an average of one sample for copper and one sample for lead. The cause of the violations could not be determined. The IU responded to the violations by inspecting the wastewater treatment system, reviewing the discharge logs and resampling. An inspection on 3/15/2013 verified compliance. The results of subsequent samples collected by the IU on 3/19/2013 and collected by the City on 3/26/2013 were in compliance.

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Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By (POTW/ IU/ OTHER)	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Hunter Technology Corporation 3305 Kifer Rd Santa Clara, CA 95051 SC-338B **Flow =** 7,811 40 CFR 433.17 Subpart A	CC	SNF/ SNL	CC	CC	3/4/2013	OTHER	pH	13.5				12.5		NV	The violation was for failing to meet the local pH limit, as noted on the IU's pH chart recorder, and failure to report violations. The four-hour pH violation was identified during an inspection on 4/15/2013. The IU failed to report the pH violation within 24 hours. The cause of the violation could not be determined. The IU did not respond to the violations as there was a change of ownership.
					4/15/2013	OTHER								NV	The violation was for failing to meet the local pH limit, as noted on the IU's pH chart recorder, and failure to report violations. The four-hour pH violation was identified during an inspection on 4/15/2013. The IU failed to report the pH violation within 24 hours. The cause of the violation could not be determined. The IU did not respond to the violations as there was a change of ownership.

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San Jose/Santa Clara Water Pollution Control Plant

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International Disposal Corporation, Inc 700 Los Esteros Rd San Jose, CA 95134 SJ-437A **Flow =** 47,750 SIU based on flow	IL	CC	CC	CC	5/31/2013	IU									WN	The violation was for failing to comply with a permit condition – analyzing samples using 40 CFR 136 methods. The cause of the violation was determined to be negligence on the part of the IU. The IU responded to the violation by establishing procedures for sample collection and analysis, which will be verified during an inspection in July 2013.
Kearney Pattern Works and Foundry 40 S Montgomery St San Jose, CA 95110 SJ-557Z **Flow =** 0 40 CFR 413 Subpart A	NS	IF/ IL	NS	NS	1/7/2013	OTHER									NV	The violation was for late submittal of a Wastewater Discharge Permit Application that was due on 11/15/2012, but was not received until 1/7/2013. The IU has committed to timely submittal of Wastewater Discharge Permit Applications in the future.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Kion Technology, Inc. 2190 Old Oakland Rd San Jose, CA 95131 SJ-191B **Flow =** 300 40 CFR 433.17 Subpart A	SNF	CC	CC	CC	5/9/2013	POTW	Ag	0.59		0.43				WN	The violation was for exceeding the federal monthly average and the federal daily maximum silver concentration limit. The federal monthly average concentration limit violation was an average of one sample. The cause of the violation was determined to be improper segregation of the silver stripping rinse wastewater. The IU responded to the violation by separating the processes, treating the silver bearing wastewater separately, and implementing an in house testing regimen for silver. An inspection will be conducted in July 2013 to verify the corrective actions. The results of subsequent samples collected by the City on 7/3/2013 and collected by the IU on 6/28/2013 were in compliance.

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Kion Technology, Inc. 2190 Old Oakland Rd San Jose, CA 95131 SJ-191B **Flow =** 300 40 CFR 433.17 Subpart A	SNF	CC	CC	CC	5/31/2013	OTHER	Ag		0.59		0.24			WN	The violation was for exceeding the federal monthly average and the federal daily maximum silver concentration limit. The federal monthly average concentration limit violation was an average of one sample. The cause of the violation was determined to be improper segregation of the silver stripping rinse wastewater. The IU responded to the violation by separating the processes, treating the silver bearing wastewater separately, and implementing an in house testing regimen for silver. An inspection will be conducted in July 2013 to verify the corrective actions. The results of subsequent samples collected by the City on 7/3/2013 and collected by the IU on 6/28/2013 were in compliance.

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Linear Technology Corporation 275 S Hillview Dr Milpitas, CA 95035 MI-088B **Flow =** 107,461 40 CFR 469 Subpart A	CC	CC	CC	CC	3/27/2013	OTHER	pH	0.22 (min)	5.0 (min)	6.0 (min)	WN	The violation was for failing to meet the federal and local pH limit, as noted on the IU's pH chart recorder. The four minute pH violation was reported by the IU on 3/27/2013. The cause of the violation was determined to be a contractor SOP failure. The IU responded to the violation by updating their SOP for contractors as verified during an inspection on 5/2/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the IU on 4/11/2013 and collected by the City on 5/2/2013 were in compliance.

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List Biological Laboratories, Inc 540 Division St Campbell, CA 95008 WV-064B **Flow =** 1,290 (on 06/18/12) 40 CFR 439 Subpart A	IL	NS	CC	NS	6/7/2013	OTHER								NV CM	The violations were for failure to provide pretreatment - discharge of untreated process wastewater, interfering substances - discharge of toxic or poisonous substances of sufficient quantity to constitute a hazard to humans or animals, and for protection from accidental discharge - failure to notify of accidental discharge within one hour. See 6/26/2013 Compliance Meeting for additional details. At a Compliance Meeting on 6/26/2013, the violations and Compliance Agreement were discussed. The IU is required to submit a summary and timeline of corrective actions to prevent future accidental discharges, an updated spill response procedure, safety data sheets for biological materials used on site, and a Slug Discharge Control Plan.

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Mannington Mills dba Burke Industries 2250 S 10th St San Jose, CA 95112 SJ-594B **Flow =** 56 40 CFR 428 Subpart G	IL	CC	CC	CC	5/15/2013	OTHER									NV AC	The violation was for late submittal of an SMR that was due on 3/31/2013, but was not received until 5/15/2013. The IU has committed to timely submittal of reports in the future. $625 fine issued for Discharge Reports per San Jose Municipal Code 15.14.695.

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Metal Finishing Solutions, Inc. 870 Comstock St Santa Clara, CA 95054 SC-438B **Flow =** 4,010 40 CFR 433.17 Subpart A	CC	IF/ IL	CC	NS	1/21/2013	OTHER	pH	13.4 3.0 5.4(min)	5.0 (min) 6.0-12.5	NV	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder, failure to report violations, and for failing to comply with permit conditions – failure to maintain continuous pH recorder and failure to maintain effluent flow meter. A total of three pH violations with durations of 150, 25, and five minutes were identified during an inspection on 1/28/2013. The IU failed to report the pH violations within 24 hours. The cause of the violations was determined to be a malfunctioning pH probe in the Acid Waste Neutralization system (AWN) and inadequate maintenance. The IU responded to the violations by repairing the AWN, calibrating the pH probes, repairing the equipment, and hiring a full time maintenance person, as verified during an inspection on 2/20/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the City on 2/5/2013 and by the IU on 2/18/2013 were in compliance.

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Metal Finishing Solutions, Inc. 870 Comstock St Santa Clara, CA 95054 SC-438B **Flow =** 4,010 40 CFR 433.17 Subpart A	CC	IF/ IL	CC	NS	1/28/2013	OTHER								NV	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder, failure to report violations, and for failing to comply with permit conditions – failure to maintain continuous pH recorder and failure to maintain effluent flow meter. A total of three pH violations with durations of 150, 25, and five minutes were identified during an inspection on 1/28/2013. The IU failed to report the pH violations within 24 hours. The cause of the violations was determined to be a malfunctioning pH probe in the Acid Waste Neutralization system (AWN) and inadequate maintenance. The IU responded to the violations by repairing the AWN, calibrating the pH probes, repairing the equipment, and hiring a full time maintenance person, as verified during an inspection on 2/20/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the City on 2/5/2013 and by the IU on 2/18/2013 were in compliance.

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Metal Finishing Solutions, Inc. 870 Comstock St Santa Clara, CA 95054 SC-438B **Flow =** 4,010 40 CFR 433.17 Subpart A	CC	IF/ IL	CC	NS	2/5/2013	OTHER	pH	4.0 (min)	5.0 (min) 6.0 (min)	WN	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder. The 25 minute pH violation was reported by the IU on 2/5/2013. The cause of the violation was determined to be a malfunctioning pH probe in the AWN. The IU responded to the violations by repairing and calibrating the pH probe, as verified during an inspection on 2/20/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the City on 2/5/2013 and collected by the IU on 2/18/2013 were in compliance.

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Metal Finishing Solutions, Inc. 870 Comstock St Santa Clara, CA 95054 SC-438B **Flow =** 4,010 40 CFR 433.17 Subpart A	CC	IF/ IL	CC	NS	2/12/2013	OTHER	pH	5.7 (min)	6.0 (min)	VW	The violation was for failing to meet the local pH limit, as noted on the IU's pH chart recorder. The five minute pH violation was reported by the IU on 2/12/2013. The cause of the violation was determined to be inadequate maintenance. The IU responded to the violations by calibrating the pH probes, as verified during an inspection on 2/20/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the IU on 2/18/2013 and collected by the City on 4/2/2013 and 5/10/2013 were in compliance.

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Miasole 2590 Walsh Ave Santa Clara, CA 95051 SC-391B **Flow =** 846 (on 12/14/12) 40 CFR 433.17 Subpart A	IL	CC	CC	CC	4/18/2013	OTHER	pH	5.5 (min)	6.0 (min)	VW	The violation was for failing to meet the local pH limit, as noted on the IU's pH chart recorder. The 45 minute pH violation was reported by the IU on 4/18/2013. The cause of the violation was determined to be due to a malfunction of the pump that feeds Potassium Hydroxide (KOH) for acid waste neutralization, as well as stagnated treated wastewater. The IU responded to the violation by cleaning and calibrating the upper pH probe, performing calibration and maintenance on the KOH injection pump, adjusting the KOH pump controller lower range from 5 S.U. to 6.5 S.U., and mixing the treated wastewater, as verified during an inspection on 4/19/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the City on 4/29/2013 and collected by the IU on 4/30/2013 were in compliance.

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	Current		Previous					Reported Level (mg/L)			Discharge Limit (mg/L)					
	Q2 2013	Q1 2013	Q4 2012	Q3 2012		POTW/ IU/ OTHER		Max	Fed Avg	Local Avg	Federal Max	Federal Avg	Local Max	Local Avg		
Micro-Chem, Inc. 2986 Oakmead Village Ct Santa Clara, CA 95051 SC-218B **Flow =** 308 40 CFR 433.17 Subpart A	IF/ IL	CC	CC	CC	5/30/2013	OTHER	pH	5.8 (min)					6.0 (min)		WN	The violations were for failing to meet the local pH limit, as noted on the IU's pH chart recorder, and failure to report violations. The 100 minute and five minute pH violations were identified during an inspection on 6/27/2013. The IU failed to report the pH violations within 24 hours. The cause of the violations was determined to be improper calibration of the pH probes. The IU responded to the violations by calibrating the pH probes, as verified during an inspection on 7/12/2013. The pH chart recorder was also reviewed and no further violations were noted. The result of a subsequent sample collected by the City on 7/12/2013 was in compliance. The IU is required to collect an additional pH sample in July 2013.

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Micro-Chem, Inc. 2986 Oakmead Village Ct Santa Clara, CA 95051 SC-218B **Flow =** 308 40 CFR 433.17 Subpart A	IF/ IL	CC	CC	CC	6/19/2013	OTHER	pH	5.8 (min)					6.0 (min)		WN	The violations were for failing to meet the local pH limit, as noted on the IU's pH chart recorder, and failure to report violations. The 100 minute and five minute pH violations were identified during an inspection on 6/27/2013. The IU failed to report the pH violations within 24 hours. The cause of the violations was determined to be improper calibration of the pH probes. The IU responded to the violations by calibrating the pH probes, as verified during an inspection on 7/12/2013. The pH chart recorder was also reviewed and no further violations were noted. The result of a subsequent sample collected by the City on 7/12/2013 was in compliance. The IU is required to collect an additional pH sample in July 2013.

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Micro-Chem, Inc. 2986 Oakmead Village Ct Santa Clara, CA 95051 SC-218B **Flow =** 308 40 CFR 433.17 Subpart A	IF/ IL	CC	CC	CC	6/27/2013	OTHER								WN	The violations were for failing to meet the local pH limit, as noted on the IU's pH chart recorder, and failure to report violations. The 100 minute and five minute pH violations were identified during an inspection on 6/27/2013. The IU failed to report the pH violations within 24 hours. The cause of the violations was determined to be improper calibration of the pH probes. The IU responded to the violations by calibrating the pH probes, as verified during an inspection on 7/12/2013. The pH chart recorder was also reviewed and no further violations were noted. The result of a subsequent sample collected by the City on 7/12/2013 was in compliance. The IU is required to collect an additional pH sample in July 2013.

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Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level (mg/L) Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
M-Pulse Microwave, Inc. 576 Charcot Ave San Jose, CA 95131-2201 SJ-035B **Flow =** 241 40 CFR 469 Subpart A	IL	CC	CC	CC	6/17/2013	OTHER								WN AC	The violation was for late submittal of an SMR that was due on 5/31/2013, but was not received until 6/17/2013, and for failing to comply with a permit condition – submit copies of the daily flow meter totalizer readings. The cause of the violation was determined to be negligence on the part of the IU. The IU will respond to the violation in July 2013. The IU has committed to timely submittal of reports in the future. $100 fine issued for Discharge Reports – Late Reporting per San Jose Municipal Code 15.14.695.
Nu-Metal Finishing, Inc. 2262 Calle del Mundo Santa Clara, CA 95054 SC-064B **Flow =** 3,224 40 CFR 433.17 Subpart A	NS	CC	SNL	CC	12/14/2012	IU	Ni	0.92				0.5		WN	The violation was for exceeding the local maximum allowable nickel concentration limit. The cause of the violation was determined to be malfunctioning ion exchange bottles. The IU responded to the violation by replacing the ion exchange bottles. An inspection on 1/14/2013 verified new ion exchange bottles were in place. The results of subsequent samples collected by the City on 1/9/2013 and collected by the IU on 1/15/2013 were in compliance.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Fed Avg	Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
PK Selective Metal Plating, Inc. 415 Mathew St Santa Clara, CA 95050 SC-013B **Flow =** 403 (on 12/05/12) 40 CFR 433.17 Subpart A	CC	CC	IL	CC	3/4/2012	OTHER									VW	The violation was for failing to comply with a permit condition – annual flow meter calibration. The violation was identified during an inspection on 1/4/2013. The cause of the violation was determined to be oversight by the IU. The IU responded to the violation by having the flow meter calibrated, as verified during an inspection on 3/19/2013.

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Semi-Annual Industrial User Violation Report

San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Pyramid Circuits, Inc. 1405 Richard Ave Santa Clara, CA 95050 SC-429B **Flow =** 1,560 40 CFR 433.17 Subpart A	SNF	CC	CC	NS	4/16/2013	OTHER	pH	0.1 (min)			5.0 (min)		6.0 (min)		WN	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder, and failure to report violations. The 45 minute pH violation was identified during an inspection on 6/26/2013. The IU failed to report the pH violation within 24 hours. The cause of the violation could not be determined. The IU responded to the violation by cleaning the pH probe and testing the alarm, as verified during an inspection on 7/12/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of a subsequent sample collected by the City on 7/12/2013 were in compliance. The IU is required to collect an additional pH sample in July 2013.

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Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status				Date Violation occurred	Taken By	Para-meter	Samples in Violation						Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
	Current		Previous					Reported Level (mg/L)		Discharge Limit (mg/L)					
	Q2 2013	Q1 2013	Q4 2012	Q3 2012		POTW/ IU/ OTHER		Max	Fed Local Avg	Federal Max	Federal Avg	Local Max	Local Avg		
Pyramid Circuits, Inc. 1405 Richard Ave Santa Clara, CA 95050 SC-429B **Flow =** 1,560 40 CFR 433.17 Subpart A	SNF	CC	CC	NS	5/3/2013	POTW	Cu	4.22		3.23		2.3		VW	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable copper concentration limits. The federal monthly average concentration limit violation was an average of two samples. The cause of the violations could not be determined. The IU responded to the violations by collecting additional laboratory samples to monitor copper concentrations. An inspection on 6/27/2013 did not identify any causes. The results of subsequent samples collected by the IU on 5/31/2013, 6/3/2013, 6/4/2013 and collected by the City on 6/26/2013 were in compliance.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Pyramid Circuits, Inc. 1405 Richard Ave Santa Clara, CA 95050 SC-429B **Flow =** 1,560 40 CFR 433.17 Subpart A	SNF	CC	CC	NS	5/31/2013	POTW	Cu		2.69		1.98			VW	The violations were for exceeding the federal monthly average, the federal daily maximum, and the local maximum allowable copper concentration limits. The federal monthly average concentration limit violation was an average of two samples. The cause of the violations could not be determined. The IU responded to the violations by collecting additional laboratory samples to monitor copper concentrations. An inspection on 6/27/2013 did not identify any causes. The results of subsequent samples collected by the IU on 5/31/2013, 6/3/2013, 6/4/2013 and collected by the City on 6/26/2013 were in compliance.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Pyramid Circuits, Inc. 1405 Richard Ave Santa Clara, CA 95050 SC-429B **Flow =** 1,560 40 CFR 433.17 Subpart A	SNF	CC	CC	NS	6/26/2013	OTHER								WN	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder, and failure to report violations. The 45 minute pH violation was identified during an inspection on 6/26/2013. The IU failed to report the pH violation within 24 hours. The cause of the violation could not be determined. The IU responded to the violation by cleaning the pH probe and testing the alarm, as verified during an inspection on 7/12/2013. The pH chart recorder was also reviewed and no further violations were noted. The results of a subsequent sample collected by the City on 7/12/2013 were in compliance. The IU is required to collect an additional pH sample in July 2013.

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Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para- meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
QuantumClean 1710 Ringwood Dr San Jose, CA 95131-1711 SJ-545B **Flow =** 519 (on 11/06/12) 40 CFR 433.17 Subpart A	CC	IL	CC	CC	5/9/2013	OTHER	pH	13.0				12.5		WN	The violation was for failing to meet the local pH limit as noted by the IU's pH meter. The 20 minute pH violation was identified during an inspection on the same day, 5/9/2013. The cause of the violation was determined to be operator error. The IU responded to the violation by retraining staff and adding additional equipment and administrative controls, as verified during an inspection on 5/13/2013.
Siemens Water Technologies LLC 960 Ames Ave Milpitas, CA 95035 MI-065C **Flow =** 124,805 SIU based on flow	IL	CC	CC	CC	4/29/2013	OTHER								WN	The violation was for late submittal of a Wastewater Discharge Permit Application that was due on 4/2/2013, but was not received until 4/29/2013. The IU has committed to timely submittal of Wastewater Discharge Permit Applications in the future.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max / Fed Avg / Local Avg	Discharge Limit (mg/L) Federal Max / Avg, Local Max / Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Silicon Microstructures 1701 McCarthy Blvd Milpitas, CA 95035 MI-108B **Flow =** 6,061 (on 09/07/12) 40 CFR 469 Subpart A	CC	IF/ IL	CC	CC	1/22/2013	OTHER	pH	1.2 (min)	5.0 (min) 6.0 (min)	NV	The violations were for failing to meet the federal and local pH limits, as noted on the IU's pH chart recorder. The 120 minute pH violation was reported by the IU on 1/22/2013. The cause of the violation was determined to be solidification of the sodium hydroxide (NaOH) used in pH adjustment. The IU responded to the violations by not discharging in early morning and changing NaOH concentration in winter months. The pH chart recorder was also reviewed and no further violations were noted. The results of subsequent samples collected by the IU on 1/28/2013 and collected by the City on 2/6/2013 were in compliance.
Silicon Valley Electroplating Corp. 1486 Gladding Ct Milpitas, CA 95035 MI-055B **Flow =** 2,265 40 CFR 433.17 Subpart A	CC	IF/ IL	CC	CC	1/9/2013	OTHER				NV	The violation was for failing to comply with a permit condition – failure to notify of significant change. The cause of the violation was determined to be negligence on the part of the IU. The IU responded to the violation by changing their notification procedures to the City, as verified in a response letter dated 2/14/2013.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Solar Junction Inc. 401 Charcot Ave San Jose, CA 95131 SJ-624B **Flow =** 50 40 CFR 469 Subpart A	IL	CC	CC	CC	4/11/2013	OTHER									NV AC	The violation was for late submittal of an SMR that was due on 3/31/2013, but was not received until 4/11/2013. The IU has committed to timely submittal of reports in the future. $150.00 fine issued for Discharge Reports (Late Reporting) per San Jose Municipal Code 15.14.695.
SVTC Technologies, LLC 3901 N 1st St San Jose, CA 95134 SJ-611B **Flow =** 22,886 SIU based on flow	NS	CC	SNF/ SNL	CC	12/13/2012	OTHER									NV	The violation was for late submittal of an SMR that was due on 9/30/2012, but was not received until 12/13/2012. The IU has committed to timely submittal of reports in the future.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
Teltec Corporation DBA: Gorilla Circuits 1509 Berger Dr San Jose, CA 95112 SJ-449B **Flow =** 70,152 (on 09/14/12) 40 CFR 433.17 Subpart A	IL	CC	NS	CC	4/8/2013	OTHER								VW	The violation was for late submittal of an SMR that was due on 3/31/2013, but was not received until 4/8/2013. The IU has committed to timely submittal of reports in the future.
Triad Tool & Engineering, Inc. 1750 Rogers Ave San Jose, CA 95112 SJ-560Z **Flow =** 0 40 CFR 464 Subpart A	CC	IL	NS	NS	1/10/2013	OTHER								NV	The violation was for late submittal of a Zero Discharge Permit Application that was due on 12/9/2012, but was not received until 1/10/2013. The IU has committed to timely submittal of Zero Discharge Permit Applications in the future.

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San Jose/Santa Clara Water Pollution Control Plant

Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
TTM Technologies, Inc - Santa Clara Division 359 Mathew St Santa Clara, CA 95050 SC-374A **Flow =** 77,609 (on 12/05/12) 40 CFR 433.17 Subpart A	CC	IF	IL	CC	10/31/2012	OTHER									NV CM	The violation was for failing to comply with a permit condition – failure to sample with the appropriate sample frequency. The cause of the violation was determined to be negligence on the part of the IU. The IU responded to the violation by establishing protocols for sample collection and analysis, as verified in their April 2013 SMR. At a Compliance Meeting on 5/22/2013, the violation and Compliance Agreement were discussed. The IU was required to ensure all samples are collected with the appropriate frequency. The IU has committed to appropriate sampling frequency in the future.

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Reporting Period 1/1/2013 to 6/30/2013

Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By (POTW/IU/OTHER)	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level (mg/L) Fed Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
TTM Technologies, Inc - Santa Clara Division 359 Mathew St Santa Clara, CA 95050 SC-374A **Flow =** 77,609 (on 12/05/12) 40 CFR 433.17 Subpart A	CC	IF	IL	CC	2/15/2013	OTHER	CN-T		1.06		0.65			VW	The violation was for exceeding the federal monthly average total cyanide concentration limit. The federal monthly average concentration limit violation was an average of one sample. The cause of the violation was determined to be increased production at the time of samples resulting in higher cyanide process rinse water. The IU responded to the violation by conducting daily sampling of the drag out tank and the final rinse tank. An inspection on 3/12/2013 verified the IU is sampling the drag out and the final rinse tanks on a daily basis. The results of subsequent samples collected by the IU on 3/1/2013, 3/4/2013, 3/6/2013, 3/13/2013, 3/15/2013, 3/19/2013, and 3/20/2013 and collected by the City on 3/12/2013 were in compliance.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Samples in Violation: Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
United Supertek, Inc. 118 Charcot Ave San Jose, CA 95131 SJ-122B **Flow =** 63 40 CFR 433.17 Subpart A	NS	CC	NS	CC	1/16/2013	POTW	Ni	3.43					2.6		VW	The violations were for exceeding the federal monthly average and the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be an incorrectly installed ion exchange resin bottle. The IU responded to the violation by having the ion exchange bottle replaced and installed correctly. An inspection on 1/28/2013 and 5/7/2013 verified the IU had made the required repairs. The results of subsequent samples collected by the City on 2/20/2013 and collected by the IU on 2/26/2013 and 3/12/2013 were in compliance.

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Facility Name and Address	Semi-Annual Compliance Status: Current Q2 2013	Current Q1 2013	Previous Q4 2012	Previous Q3 2012	Date Violation occurred	Taken By POTW/ IU/ OTHER	Para-meter	Reported Level (mg/L) Max	Reported Level Fed Avg	Reported Level Local Avg	Discharge Limit (mg/L) Federal Max	Federal Avg	Local Max	Local Avg	Enf. Act.	Comments on Follow up, Corrective, or Enforcement Action Taken
United Supertek, Inc. 118 Charcot Ave San Jose, CA 95131 SJ-122B **Flow =** 63 40 CFR 433.17 Subpart A	NS	CC	NS	CC	1/31/2013	OTHER	Ni		3.43			2.38			VW	The violations were for exceeding the federal monthly average and the local maximum allowable nickel concentration limits. The federal monthly average concentration limit violation was an average of one sample. The cause of the violations was determined to be an incorrectly installed ion exchange resin bottle. The IU responded to the violation by having the ion exchange bottle replaced and installed correctly. An inspection on 1/28/2013 and 5/7/2013 verified the IU had made the required repairs. The results of subsequent samples collected by the City on 2/20/2013 and collected by the IU on 2/26/2013 and 3/12/2013 were in compliance.

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COMPLIANCE WITH PRETREATMENT PROGRAM REQUIREMENTS

2012 Pretreatment Compliance Inspection

On September 28, 2012, the City received the 2012 City of San José Pretreatment Compliance Inspection Summary Report (2012 PCI Summary Report) for an inspection conducted by EPA contractor PG Environmental, LLC on January 5, 2012. The City has responded to all findings of the 2012 PCI Summary Report; a summary is included in Attachment 1 of this Section.

2013 Pretreatment Compliance Audit

On July 8, 2013, the City received the 2013 City of San José Pretreatment Compliance Audit Summary Report (2013 PCA Summary Report) for an audit conducted by EPA contractor PG Environmental, LLC on April 25-26, 2013. The City will submit the response to the findings by September 9, 2013.

Attachment 1

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
1	The City's wastewater discharge permits do not include the upset provision specified in the federal regulations at 40 CFR 403.16. The City is required to include this information in its wastewater discharge permits in accordance with the requirements stated at 40 CFR 403.16(a)–(f). (Section 6.1, Upset Provision and Notification)	The City updated the San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Permit Template "Stipulations" section to include language describing the "Upset Provisions" specified in 40 CFR 403.16. A copy of the "Stipulations" section contained in the 11/30/2012 San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Permit Stipulations Template was included in Attachment 1 of the 11/30/2012 Response to San Jose/Santa Clara Water Pollution Control Plant (Plant) 2012 Pretreatment Compliance Inspection Summary Report (11/30/2012 Response).	Completed
2	Arnold's Metal Finishing has developed a Slug Discharge Prevention Plan Outline that was submitted to the City August 4, 2011. The facility representative stated that a more thorough plan was being developed with an ISO consultant. The August 2011 plan was reviewed, and it does not meet all the federal requirements for a slug discharge control plan. The City is required to confirm the design and implementation of a properly developed slug discharge control plan. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City developed a Compliance Agreement with Arnold's Metal Finishing at a Compliance Meeting on 8/3/2011. The Compliance Agreement required Arnold's Metal Finishing to develop a slug discharge control plan. Arnold's Metal Finishing responded to the Compliance Agreement by submitting a slug discharge control plan on 8/4/2011. A revised slug discharge control plan was subsequently submitted on 4/2/2012. This plan has been reviewed by the City and was found to be adequate based on the conditions at the time. A copy of the front page of this slug discharge control plan was included in Attachment 2 of the 11/30/2012 Response. After the installation of Arnold's Metal Finishing updated pretreatment system, the Industrial User submitted an updated slug discharge control plan on 2/12/2013. A copy of the front page of the revised 2/21/2013 Slug Discharge Control Plan is included in Attachment 1 of this 7/31/2013 Final Response to the San Jose/Santa Clara Water Pollution Control Plant 2012 Pretreatment Compliance Inspection Summary Report (7/31/2013 Response.) The City will continue to review, monitor, and enforce, as necessary, the implementation of the process changes and respond to any impact on slug potential.	Completed
3	Arnold's Metal Finishing has not completed the corrective actions by the due dates in the wastewater discharge permit's compliance schedule. It appeared that the permittee has made a good faith effort to properly respond to the permit's compliance schedule and is in the process of installing a new pretreatment system. The City is required to ensure that the permittee meets the compliance schedule requirements in Part D of the wastewater discharge permit. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City developed a Compliance Agreement with Arnold's Metal Finishing at a Compliance Meeting on 8/3/2011. Arnold's Metal Finishing responded to the Compliance Agreement by making repairs to the existing wastewater pretreatment system and monitoring for metals for a period of six months beginning in September 2011. On 11/16/2012, the City developed a second Compliance Agreement with Arnold's Metal Finishing to ensure the requirements from the 8/3/2011 Compliance Agreement are completed. In February, 2012, Arnold's Metal Finishing began the process of installing a new pretreatment system. Arnold's Metal Finishing began using the updated treatment system on 4/9/2013. Under the 11/16/2012 Compliance Agreement, Arnold's Metal Finishing was required to submit updated standard operating procedures and an updated slug discharge control plan following the installation of the new pretreatment system. Copies of the 8/3/2011 and 11/16/2012 Compliance Agreements were included in Attachment 3 of the 11/30/2012 Response. The industrial user submitted on 2/12/2013 an updated slug discharge control plan and on 4/25/2013 an updated standard operating procedure. The industrial user submitted on 7/10/2013 a final evaluation of the pretreatment system. This final evaluation was reviewed and accepted with the industrial user, as documented in a 7/24/2013 inspection report. Copies of the first page of the 2/12/2013 slug discharge control plan, the first page of the 4/25/2013 operating procedure, the first page of the 7/10/2013 engineering evaluation, and the 7/24/2013 Inspection Report are included as Attachments 1, 2, 3, and 4 of this 7/31/2013 Response. The City will continue to review, monitor, and enforce, as necessary, the implementation of these requirements.	Completed

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
4	The City must require that Micrel representatives identify the source of the pipe discharging into the second neutralization tank. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City has identified the source of the pipe noted in the report as an emergency discharge from a normally closed loop cooling process, as documented in the 1/5/2012 and 2/29/2012 Inspection Reports. The industrial user has since labeled and moved this potential dilution stream flow down stream of the sample point, as documented in the 9/17/2012 inspection report. Copies of the 1/5/2012, 2/29/2012, and 9/17/2012 Inspection Reports were included in Attachment 4 of the 11/30/2012 Response.	Completed
5	The facility representatives at Newport Corporation reported production hours of 5:00 a.m. to 2:30 p.m. The facility representative stated that the contractor that collects the wastewater samples sets up a composite sampler to pull wastewater from the final sample tank over a period of 24 hours; thus, the sampler is pulling from stagnant, non-representative wastewater while the facility is not in production. Section E of the facility's wastewater discharge permit requires that "a composite sample must represent the discharge from a production day. Collect composite samples over the part of the day when wastewater is being discharged." The City is required to ensure that the facility collects representative wastewater samples as required by the facility's wastewater discharge permit. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City directed Newport Corporation to change the final sample point composite sampler sampling time period to production hours only, instead of 24 hours, and to record the sampling time period in the sample results, as documented in the 1/5/2012 inspection report. Since that time, Newport Corporation contacted the contract laboratory (Dysert Environmental) to change the sampling time period, as documented in a 1/26/2012 e-mail that is attached to the 1/5/2012 Inspection Report. In addition, the most recent Self Monitoring Report (received on 5/14/2012) includes documentation that the samples were collected during the production hours only. Copies of the 1/5/2012 Inspection Report and the 5/14/2012 Self Monitoring Report were included in Attachments 5 and 6, respectively, of the 11/30/2012 Response.	Completed

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
6	The Spraytronics, Inc. pH log was reviewed. The recorded pH readings were either 6 or 7 S.U.. There have been a number of instances (approximately 50%) of wastewater discharges with a pH of 6 S.U.. (the lower pH limit is 6 S.U..) since December 1, 2011. The facility representative thought that pH paper is typically used to determine the pH of the effluent. Section B of the facility's wastewater discharge permit requires that self-monitoring procedures be performed in accordance with 40 CFR part 136. The City is required to ensure that the permittee is properly and accurately measuring and documenting effluent pH. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City notified Spraytronics, Inc. of the daily pH log requirements in the facility's existing (4/15/2008) Plant Industrial Wastewater Discharge Permit (Discharge Permit), as documented in the 1/5/2012 Inspection Report. During this inspection and a follow-up inspection on 1/31/2012, the facility's rinse water was continuously discharging from the sample point to the sanitary sewer. Based on this observation, the City sent Spraytronics, Inc. a letter on 2/2/2012 requiring submittal of a Discharge Permit Application. After reviewing the Discharge Permit Application, the City determined that the facility discharge should be changed from a batch discharge to an intermittent continuous discharge, triggering a new Discharge Permit with new pH monitoring requirements. The City issued a new Discharge Permit to Spraytronics, Inc. on 4/30/2012. Section B-3 of the 4/30/2012 Discharge Permit required the installation of a continuous pH recorder by 6/29/2012. Spraytronics, Inc. did order two pH recorder units in June 2012, as documented in the 6/28/2012 and 8/22/2012 Spraytronics, Inc. Permit Condition Extension Request Letters, however, due to mechanical problems associated with the new units, Spraytronics, Inc. requested and the City accepted an extension until 8/22/2012 for completing the installation of the new meter. Spraytronics, Inc. has since installed a fully functional pH recorder, as documented in the 9/6/2012 Inspection Report. Section B. Self-Monitoring Requirements of the 4/30/2012 Discharge Permit also requires that all self monitoring samples be collected and analyzed in accordance with 40 CFR 136 and analyzed by a state certified laboratory. Spraytronics, Inc.'s Self Monitoring Reports, submitted for pH samples collected on 11/30/2010, 5/16/2011, 12/8/2011, and 6/12/2012, document that samples were collected and analyzed following 40 CFR 136 methods. Copies of the 1/5/2012 , 1/31/2012, and 9/6/2012 Inspection Reports, the City's 2/2/2012 letter requesting submission of Discharge Permit Application, the 4/30/2012 Discharge Permit, 6/28/2012 and 8/22/2012 Spraytronics, Inc. Permit Condition Extension Requests Letters, and the most recent 6/22/2012 Self Monitoring Report (which include the 6/12/2012 sample results) were included in Attachments 7, 9, 10, 11, and 12 of the 11/30/2012 Response.	Completed

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
7	Section B.1 of the Spraytronics, Inc. wastewater discharge permit requires the permittee to notify the City inspector a week before commencing discharge to the sanitary sewer. The City inspector stated that the City has not been notified of wastewater discharges. A review of the facility's wastewater discharge log reveals that there is approximately one discharge per business day. The City is required to ensure that the permittee is aware of all discharge requirements. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	In response to discharge pattern changes identified during the 1/5/2012 inspection and 1/31/2012 follow-up inspection, the City sent Spraytronics, Inc. a letter on 2/2/2012 requiring the submittal of a Discharge Permit Application. After reviewing the Discharge Permit Application, the City determined that that facility's discharge should be changed from a batch discharge to an intermittent continuous discharge, triggering a New Permit requiring new monitoring requirements. On 4/30/2012, the City issued a new Discharge Permit to Spraytronics, Inc., classifying the facility as an intermittent discharger. Under the conditions of this new permit, Spraytronics, Inc. is no longer required to notify the City prior to discharging wastewater to the sanitary sewer. Instead, all discharges will be metered continuously and logged daily. Section B.1 Self-Monitoring Reporting Requirements of the 4/30/2012 Discharge Permit requires submittal of daily effluent flow meter totalizer reading logs with each Self Monitoring Report. The Self Monitoring Report submitted on 6/22/2012 includes the totalizer readings. Additionally, the City issued a Warning Notice on 11/6/2012 for failure to report the discharges, a permit condition violation under the former Discharge Permit. Copies of the 1/5/2012 and 1/31/2012 Inspection Reports, the 2/2/2012 letter requesting submission of Discharge Permit Application, the 4/30/2012 Discharge Permit, the 6/22/2012 Self Monitoring Report, and the 11/6/2012 Warning Notice are included as an Attachments 7, 8, 9, 10, and 11 of the 11/30/2012 Response.	Completed
8	Section B.1 of the Spraytronics, Inc. wastewater discharge permit requires the permittee to maintain a log that contains the time of each batch discharge. The batch discharge log reviewed did not contain the time of each discharge. The City is required to ensure that the permittee is documenting all permit- required items. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City notified Spraytronics, Inc. of the daily flow log requirements in the facility's existing (4/15/2008) Discharge Permit, as documented in the 1/5/2012 Inspection Report. During this inspection and a follow-up inspection on 1/31/2012, the facility's rinse water was continually discharging from the sample point to the sanitary sewer. Based on this observation, the City sent Spraytronics, Inc. a letter on 2/2/2012 requiring submittal of a Discharge Permit Application. After reviewing the Discharge Permit Application, the City determined that that facility discharge should be changed from a batch discharge to an intermittent continuous discharge, triggering a new Discharge Permit with permit conditions requiring new discharge flow monitoring requirements. The City issued a new Discharge Permit to Spraytronics, Inc. on 4/30/2012. Section B.3 of this Discharge Permit requires the industrial user to maintain daily flow meter totalizer logs instead of batch discharge logs, for both influent dedicated to process and effluent from pretreatment process. The City discussed the new Discharge Permit requirements with the industrial user, as documented in the 5/16/2012 Inspection Report. Spraytronics, Inc. now logs both influent and effluent flow meter daily readings on log sheets, as confirmed during the 5/24/2012 and 9/6/2012 inspections. Copies of these log sheets were also submitted with the 6/22/2012 Self Monitoring Report. Additionally, the City issued a Warning Notice on 11/6/2012 for failure to accurately report the discharges, a permit condition violation under the former Discharge Permit. Copies of the 1/5/2012, 1/31/2012, 5/24/2012 and 9/6/2012 Inspection Reports, the 2/2/2012 Required Permit Application Submittal Letter, the 4/30/2012 Discharge Permit, the 6/22/2012 Self Monitoring Report, and the 11/6/2012 Warning Notice are included in Attachments 7, 9, 8, 10, and 11 of the 11/30/2012 Response.	Completed

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
9	Section B.1 of the Spraytronics, Inc. wastewater discharge permit requires the permittee to maintain a log with total flow discharged to the sanitary sewer. A review of the discharge log revealed that the permittee in not properly reading the flow meter and is off by a factor of 10. The City is required to ensure that the permittee is properly reading the flow meter and documenting the readings accordingly and that compliance monitoring is correct. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City notified Spraytronics, Inc. of the daily flow log requirements of the facility's existing (4/15/2008) Discharge Permit, as documented in the 1/5/2012 Inspection Report. During a follow-up inspection conducted on 1/31/2012, the City also discussed the importance of reading and logging the flow meter accurately with Spraytronics, Inc. personnel, as documented in the 1/31/2012 Inspection Report. During both of these inspections, the facility's rinse water was continually discharging from the sample point to the sanitary sewer. Based on this discharge pattern change, the City sent Spraytronics, Inc. a letter on 2/2/2012 requiring submittal of a Discharge Permit Application. After reviewing the Discharge Permit Application, the City determined that that facility discharge should be changed from a batch discharge to an intermittent continuous discharge, triggering a new Discharge Permit with new permit conditions requiring new discharge flow monitoring requirements. The City issued a new Discharge Permit to Spraytronics, Inc. on 4/30/2012. Section B.3 of the new Discharge Permit requires the industrial user to maintain daily flow meter totalizer logs instead of batch discharge logs for both influent dedicated to process and effluent from pretreatment process. The City discussed the new Discharge Permit requirements, as documented in the 5/16/2012 inspection report. Spraytronics, Inc. submitted copies of these log sheets with the 6/22/2012 Self Monitoring Report, which appear to be consistent with flow meter readings reviewed during the 5/24/2012 and 9/6/2012 inspections. Copies of the 1/5/2012, 1/31/2012, 5/16/2012, 5/24/2012, and 9/6/2012 Inspection Reports, the 2/2/2012 Required Permit Application Submittal Letter, the 4/30/2012 Discharge Permit, and the 6/22/2012 Self Monitoring Report were included in Attachments 7, 9, 10, and 11 of the 11/30/2012 Response.	Completed

Table 1: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report- Requirements

#	Description	Response	Target Date
10	TTM Technologies collects grab wastewater samples from the effluent flume and analyzes samples internally at the facility. The facility has not submitted the internal wastewater analysis results to the City. The regulations at 40 CFR 403.12(g)(6) require that if an industrial user monitors any regulated pollutant at the appropriate sampling location more frequently than required by the City, using procedures prescribed a 40 CFR 136, the results of this monitoring must be reported to the City. The City is required to evaluate the facility's internal monitoring procedures and analysis and ensure that results are being reported, if applicable. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The state of California requires California laboratory certification for samples to be considered conforming to 40 CFR 136 for regulatory purposes. This is explicitly stated in a letter from the California State Water Quality Control Board dated August 31, 2007 (Revised January 28, 2008) subject "Must Any Sample Used for Regulatory Purposes be Analyzed By A Certified Laboratory". A copy of this letter was included in Attachment 13 of the 11/30/2012 Response. The following is the portion of this letter specifically discussing this issue. Section 510 of the Federal Clean Water Act stipulates in part that California's program requirements are no less stringent than Federal requirements. Further, 40 CFR part 122.41 (j) (4) requires that monitoring must be conducted according to test procedures approved under 40 CFR Part 136. California Water Code expands this requirement to all regulatory programs. WC section 13176 requires laboratory analysis submitted under Division 7 of the Water Code must be from a certified laboratory. Division 7 of the California Water Code includes waste discharge requirements, individual disposal systems, onsite sewage treatment systems, grey water systems, as well as compliance with the provisions of the Federal Water Pollution Control Act and Clean Water Act establishing the NPDES permitting program. Health & Safety Code section 100825 (b) requires that laboratory analysis of environmental samples used for regulatory purposes be from certified laboratories. In addition, the City evaluated the laboratory analysis procedure included in page 18 of the TTM Technologies CSD-003 Waste Treatment Systems Operations Manual, provided on 10/18/2012 by TTM Technologies. The Plant laboratory staff reviewed the procedure and determined that since the samples are not digested, the facility sample methods do not comply with 40 CFR 136 methods. Therefore, TTM Technologies is not required to submit the internal sample results. A copy of page 18 of the TTM Technologies CSD-003 Waste Treatment Systems Operations Manual was included in Attachment 14 of the 11/30/2012 Response.	Completed

Table 2: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report - Recommendations

#	Description	Response	Target Date
1	It is recommended that the City continue to implement and expand its unused pharmaceutical recovery program to continue the removal of pharmaceuticals from the sanitary sewer. (Section 2.3.1, Pharmaceutical Recovery)	The City plans to continue to implement its unused pharmaceutical recovery program to continue the removal of pharmaceuticals from the sanitary sewer. The City currently focuses its pharmaceutical recovery efforts on one-day collection events held during National Pollution Prevention Week.	Completed
2	It is recommended that the City continue to implement its mercury reduction program focusing on the City's dental facilities. (Section 2.3.2, Dental Mercury)	The City plans to continue to implement its mercury reduction program focusing on the City's dental facilities. The City currently has permitted a total of 855 dental offices located in San Jose and the Plant service area. Roughly, 606 facilities have been inspected as of 11/30/2012. Initial inspections of all facilities will be completed in 2013.	Completed
3	It is recommended that the City urge its industrial laundries to participate in EPA's SDSI program and eliminate the use NPEs. (Section 2.3.3, Industrial Laundries)	A letter was sent on 11/16/2012 to urge Prudential Overall Supply to participate in the EPA's SDSI program and eliminate the use of NPEs. Additionally, the City discussed this program with representatives from Prudential Overall Supply, as documented in the 10/23/2012 Inspection Report. During that inspection, Prudential Overall Supply provided documentation showing that they are participating in the Environment-friendly Maximally Concentrated (EMAX) program. The chemicals used carry the EPA's Designed for the Environment (DFE) seal of approval and do not use NPEs. Prudential Overall Supply has also received the Textile Rental Services Association's (TRSA) Clean Green Certification for energy efficiency, water efficiency, and use of non-NPEs. The inspection confirmed that the detergent used on site contains alcohol ethocolate, not NPEs. Copies of the 11/16/2012 City Participation Recommendation letter and 10/23/2012 Inspection Report were included in Attachment 15 and 16, respectively of the 11/30/2012 Response.	Completed
4	It is recommended that the City continue with a thorough local limit evaluation in an effort to complete the evaluation within its approximate time frame of six to nine months. (Section 4, Local Limits)	The City conducted an evaluation of the industrial wastewater local limits in a report entitled, *2013 San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Local Limit Update*. This report concluded that no changes to the local limits in required at this time. The report is included as Attachment #5 of this 7/31/2013 Response.	Completed
5	A component of the statement of nontransferability in the City's wastewater discharge permits states that "in the event of any change in control or ownership, the Permit shall be cancelled. Notification of such change shall be forwarded to the San Jose/Santa Clara Water Pollution Control Plant within 30 days of such change." It is recommended that the City require notification 30 days prior to such a change so that the City is aware of any change in control or ownership before the transaction. (Section 6.2, Nontransferability)	The City updated the San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Permit Template "Stipulations" section to require notifications 30 days prior to changes in control or ownership . A copy of the "Stipulations" section contained in the 11/30/2012 San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Permit Stipulations Template was included in Attachment 1 of the 11/30/2012 Response.	Completed

Table 2: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report - Recommendations

#	Description	Response	Target Date
6	It is strongly recommended that the City continue to implement its peer review presentation program and inspection and report writing SOP. (Section 8.2, Compliance Inspections)	The City does plan to continue to implement both the peer review presentations program and the inspection and report writing standard operating procedures.	Completed
7	The facility representatives at Lenthor Engineering received a thorough exit review from the City inspector that included a number of verbal requirements. The requirements included labeling process pipes, cleaning up water within secondary containment, repositioning the process tank located immediately above the secondary containment wall, and replacing the cover to the final discharge tank. It is recommended that the City follow up on the exit interview requirements. If it appears that the facility's staff are using the final discharge tank cover as a shelving unit, the inspection team strongly recommends that this area be structurally modified to prevent staff members from storing anything above the final discharge tank (to eliminate any possible slug discharges). (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City inspected Lenthor Engineering, as documented in the 1/20/2012 Inspection Report. During the inspection, the City observed the following: A. The process piping included updated labeling, B. The floor water was no longer present in the secondary containment the batch treatment area, C. The pumice containers in the dry film area were stored fully within secondary containment, D. The final discharge tank located in plating area was properly covered and tank labeled with a no dumping sign, E. The final discharge tank was no longer being used as a shelving unit, F. The discharge pipes for pumping batch treated water from drums into clarifier via "stingers" were properly labeled, and G. The barrier in plating area was properly secured. A copy of the 1/20/2012 Inspection Report was included in Attachment 17 of the 11/30/2012 Response.	Completed
8	The facility representatives at Lenthor Engineering stated that the facility might move in the near future based on company growth needs. It is strongly recommended that the City follow up on the company's moving status. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City continues to track Lenthor Engineering's planned move, as documented in the 9/25/2012 Inspection Report. Lenthor Engineering will be leaving their current location under eminent domain to allow for expansion of the Bay Area Rapid Transit (BART). They are currently awaiting the final order from BART. Lenthor Engineering is considering two locations within the tributary area. The City will continue to review and monitor the progress of this move. A copy of the 9/25/2012 Inspection Report was included in Attachment 17 of the 11/30/2012 Response.	Completed
9	It is strongly recommended that the City follow up with Micrel representatives concerning the positioning of unlabeled and unidentified pipes on the top of the neutralization tanks. The facility representatives should be asked to explain the reasoning behind the positioning of the pipes on top of the tanks as well as to describe the possible impacts on the pretreatment system and permit compliance. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City has requested the industrial user to identify and label the pipelines identified in the treatment system area as documented in the 1/5/2012 and 2/29/2012 inspection reports. The industrial user has since identified, labeled, and moved the potential dilution stream flow down stream of the sample point as documented in the 9/17/2012 inspection report. Copies of the 1/5/2012, 2/29/2012, and 9/17/2012 inspection reports were included in Attachment 5 of the 11/30/2012 Response.	Completed

Table 2: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report - Recommendations

#	Description	Response	Target Date
10	At Spraytronics, Inc. a small paint spray booth that had reportedly not been used in years was located adjacent to the wet process and pretreatment system. Three- to five-gallon totes of liquids were stored below the spray booth. The materials safety data sheet attached to the booth stated that the totes contained silver metals. It is strongly recommended that the totes be removed from the pretreatment area to eliminate any potential for discharge to the sanitary sewer. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	During the 1/31/2012 inspection, Spraytronics, Inc. was directed to remove the defunct paint spray booth from the pretreatment area. Spraytronics, Inc. removed the unit from the pretreatment/phosphating process area, as documented in the 5/16/2012 Inspection Report. Copies of the 1/31/2012 and 5/16/2012 Inspection Reports were included in Attachment 9 of the 11/30/2012 Response.	Completed
11	While touring Silicon Valley Electroplating's utility services, the inspection team observed an evaporator (in the boiler room) that had been filled with debris and was no longer in operating condition. It is strongly recommended that the City follow up on what happened to this treatment unit and ensure that proper operational protocols exist to ensure that the current treatment units do not experience similar failures in maintenance activities. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City has followed up with Silicon Valley Electroplating Corp. regarding the evaporator. The industrial user indicates the evaporator was taken offline due to incompatibility with caustic wastestreams generated onsite. The City has reviewed Silicon Valley Electroplating Corp.'s current operational protocols, as documented in the 10/4/2012 Inspection Report. Silicon Valley Electroplating Corp. maintenance and operational protocols were observed to be adequate to prevent failures in current treatment units. A copy of the 10/4/2012 Inspection Report was included in Attachment 18 of the 11/30/2012 Response.	Completed
12	While walking the perimeter of Silicon Valley Electroplating's treatment system area, the inspection team found a spare treatment system. The facility representatives stated that it was purchased for future growth but is not expected to be used in the near future. It is recommended that the City follow up with the facility representatives on a project time line for the expansion of the treatment system. (Section 8.3, Nondomestic User Site Inspections Conducted during the Inspection)	The City has followed up with Silicon Valley Electroplating Corp. and no expansion of the treatment system is projected as documented in the 10/4/2012 Inspection Report. A copy of the 10/4/2012 Inspection Report was included in Attachment 18 of the 11/30/2012 Response. The City will continue to review and monitor for any changes in the facility processes including expansion of the treatment system.	Completed

Table 3: July 31, 2013 Final Response to 2012 Pretreatment Compliance Inspection Summary Report
List of Attachments

Attachment #	Facility Name	Type of Document	Dates and Description	PCI Requirement #	PCI Recommend #
1	Arnold's Metal Finishing	Slug Prevention Control Plan	First Page of Updated 2/12/2013 Slug Prevention Control Plan	2,3	
2	Arnold's Metal Finishing	SOP	First Page of 2013 Standard Operating Procedures entitled, "Waste Treatment Operation Plan"	3	
3	Arnold's Metal Finishing	Evaluation	First Page and Signed Certification of Engineering Report Evaluation Submitted on 7/10/2013 entitled, "Arnold's Metal Finishing Wastewater Treatment Plant Assessment"	3	
4	Arnold's Metal Finishing	Inspection Report	7/24/2013 Source Control Inspection Report	3	
5	NA	Report	*2012 San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Local Limits Update* Report		4

7/31/2013 Response to 1/6/2012 Pretreatment Compliance Inspection Attachments 1 to 5

Attachment 1

ARNOLD'S METAL FINISHING

Slug Prevention Plan

805 Aldo Ave Suite 104 Santa Clara, CA 95054

Arnold Metal Finishing QA

2/21/2013

Rev. A
2.21.13

Attachment 2

Arnold Metal Finishing	Document Number:	WI 6.4.0-4
Waste treatment Operation Plan	Revision:	C
	Effective Date:	4/12/2013

Waste Treatment Operating Instructions

1. Turn Polymer, Corcat, Metal Graber knobs to "AUTO" at Main control panel.
2. Turn on mixer switches to "ON" at Control panel #2.
3. Turn Main sump pump switch, located in the processing floor, to "ON".
4. Turn blower switch, located on control panel #2, to "ON" to start agitation.
5. Sign Off Chart recorder paper (see chart recorder section).

Conduct a visual inspection check for the following:

Surge tanks #1&#2

The tanks are to remain empty regularly unless, there is a batch treatment needed.

Surge Tank#3

Check that there is no blockage of the flow by making sure water is discharging into the surge tank.

Check for bubbling in tank to confirm agitation is working.

Low pH tank #4

Check that the mixer is working properly.

Check the Corcat W84L acid pump for maintenance issues.

Check acid pump for Sulfuric for maintenance issues.

High pH tank #5

Check that the mixer is working properly.

Check Caustic Soda (Sodium Hydroxide) pump for maintenance issues.

Attachment 3

Arnolds Metal Finishing

805 Aldo Avenue Santa Clara, CA 95054

Wastewater Treatment Assessment

John Strandberg PE
Strandberg Associates LLC

2013

This document assesses the design and construction of the Wastewater Treatment Assessment System at Arnolds Metal Finishing 805 Aldo Avenue Santa Clara, CA 95054 This assessment was developed from industry manufacturing information and standards, as well as information provided by the client, and data from actual equipment inspection.

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete

I certify that the tanks at Arnolds Metal Finish, Santa Clara, CA have been designed and constructed for the intended use in accordance with good engineering practices. The tank systems have sufficient structural integrity and are suitable for containing the material stored. The foundation, structural support, seams, connections and pressure controls are adequately designed for the tank system has sufficient structural strength, is compatible with the materials transferred and stored, and the tank system has suitable corrosion protection so that it will not collapse or fail. Additionally, the system will perform to the effluent limits of the San Jose Santa Clara Wastewater Pretreatment Standard when operated within the its operating limitations.

Currently the system has a capacity of 843 gallons per day based on the operating the filter press 1 cycle per day and an incoming precipitatable solids of 36% by volume. Increasing the filter press capacity by increasing the size or the number of cycles will increase the capacity of the system. Also, reducing the amount of precipitatable solids will increase the capacity. The overall systems flow is limited by the clarifier configuration and design. Based on the current settling velocity the system can handle flows up to 21 gallons per minute. This flow can be increased by changing the clarifier configuration to parallel from series and by adding inclined plates to the clarifier if needed. The main constraint of the system is the limited filter press size.

Finally, the system is designed for treating plating shop rinse waters. Treatment of concentrated plating shop waste cannot be done in this system.

CERTIFICATION and APPROVAL

Engineer's Certification: Having examined Arnolds Metal Finishing 805 Aldo Avenue Santa Clara, CA 95054, and being, I attest that this inspection has been prepared in accordance with good engineering practices.

Professional Engineer Signature

John Strandberg

Date Wednesday, July 10, 2013

STI Certified Above Ground Tank Inspector #AST 71907

P.E. License Number and State CH3755 California

REGISTERED PROFESSIONAL ENGINEER
JOHN B. STRANDBERG
CH 003755
9/30/14
CHEMICAL
STATE OF CALIFORNIA

Attachment 4

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

Work Task ID:	732601
Inspection ID:	488026
Task Due Date:	07/24/2013
Inspection Date:	07/24/2013

Source Control Inspection Report

Inspection Information:

Company Name: Arnold's Metal Finishing

Company Address: 805 Aldo Ave, Unit 104
Santa Clara, CA 95054

Permit Number: SC-369B

Contact Name: Arnold Sanchez
Cinthia Ramirez

Inspection Type: Compliance (Day)

Inspector: Gerardo Nieves

Start Time: 7/24/2013 10:00:00AM

End Time: 7/24/2013 11:15:00AM

Given Consent to Inspect?: Yes

Inspector required to Attend training?: No

Required to sign in?: Yes

Required to sign Confidentiality Agreement?: No

Overall Inspection Observation:

Permit Requirement: Acceptable

Regular Employee Training: Periodic Employee Training

Maintainance Procedure Up to Date: Yes

House Keeping: Clean and Well Kept

Sample Points:

Sample Point: 01 - Final Sample Point

Is Clean: Yes

Color of Flow:

Is Acceptable: Yes

Labelled Properly: Yes

Safely Accessible: Yes

Sufficient Volume To Sample: Yes

Flow Volume: No Discharge

Has Foam:

Has Particulate Floc:

Has Sludge:

General:

pH Meters:

pH Meter Name:	Final pH Meter
pH Reading (S.U.):	9.08
Operating Properly?:	Adequate
Chart has Paper?:	Adequate
Meter Calibrated?:	Adequate
Probe Clean?:	

Flow Meters:

Flow Meter Name:	DI Water Meter	Flow Meter Name:	Effluent Meter
Operating Properly?:	Adequate	Operating Properly?:	Adequate
Meter Last Calibrated:		Meter Last Calibrated:	
Flow Meter Reading (gal):	1731330	Flow Meter Reading (gal):	82518
Meter Last Checked:		Meter Last Checked:	
Calibrated Annually?:		Calibrated Annually?:	Adequate
General Observations:		General Observations:	

Flow Meter Name:	Influent Meter
Operating Properly?:	Adequate
Meter Last Calibrated:	
Flow Meter Reading (gal):	454470
Meter Last Checked:	
Calibrated Annually?:	
General Observations:	

Pretreatment System:

Pretreatment Process	Log Book	Last Service
Metals Precipitation	Yes	

Chemical Inventory:

Chemical Inventory	Waste Present	Label Status	Manifests?
Copper	Yes	Adequate	
Nickel	Yes	Adequate	

Inspection Checklist:

Process Information:

Process Name	Checked
Metal Finishing	Yes

Changes Since Last Inspection?: No

Operation Information: Yes

Other Equipment:

Equipment	Checked
Batch Treatment	Yes
Clarifier	Yes
Filter Press	Yes
Metal Hydroxide Precipitation	Yes
pH adjustment	Yes
Sand Filter	N/A

Pollution Prevention: Yes
Flow Data: Yes

Field Notes:

A Compliance Inspection was conducted. Contacts during this visit: Cinthia Ramirez, Jose Luis Arroyo, and Arnold Sanchez

All items required by the November 11, 2012 Compliance Agreement have been completed and all requested documents were submitted. Arnold's submitted the final evaluation report by John Strandberg of Strandberg Associates LLC on 7/10/2013. The evaluation report certified the adequacy of the system to properly treat the wastewater generated at this site. The final install date of the new system is 2/12/2013. The holding tanks were put into use on 4/1/2013 and the first discharge date was 4/9/2013.

Jose Luis Arroyo was recently hired as the wastewater treatment operator and person in charge of the lab. The findings of the 2013 PCA Audit and the recommendations made in the conclusion of the Wastewater Treatment Assessment report were discussed. Items discussed include the proper labeling of the Wastewater Treatment System plumbing, the hydro imaging process tank capacity and its water change-out schedule, TTO testing, ventilation and solvent smell in the hydro imaging room, sludge tanks' operation, pH levels of the treatment process as recommended by the assessment report, treatment of solutions with high aluminum concentration, and the filter press capacity.

> Inspection: Inspected the hazardous waste and chemical storage areas, the painting area, the polishing area, all packaging areas, all plating areas, the hydro graphic process area, the lab and the wastewater treatment area. The Wastewater Treatment System was operating normally and was not discharging during this inspection.

> Hydro Imaging Process: The hydro imaging room was not in use during this inspection. The process tank holds 750-800 gallons and is scheduled for change outs approximately every three months. There is a spray rinse booth in this room which is used to wash the parts after the hydro imaging. The drain pipe of this booth runs out to the plating floor and discharges to the wastewater treatment system. IU will coordinate the next discharge to have the hydro imaging wastewater sampled by SJ POTW City staff.

> Monitoring Equipment: The IU's chart recorder was showing a pH of 9.08 S.U. and the pH recorder read approximately 9.0 S.U. The effluent meter was reading 82518 gallons. The last discharge was on 5/6/2013. The Effluent meter was showing 82518 gallons, the influent meter was showing 454470 gallons and the DI water meter was showing 1731330 gallons.

All of the pH recorder wheel charts since the new system was put in to use in April 2013 were reviewed. No violations were observed. Noted that during Mr. Arroyo's new employee training he accidentally turned the power off to the entire system for the weekend of July 20-21, 2013 inadvertently shutting off the pH recorder and after the final install there were a couple of power surges that impacted the pH recorder's operation.

All three of the issues noted during the PCA have been addressed. All the air agitation pipes of the Wastewater Treatment System have been labeled and proper labeling of the entire plumbing lines is now complete. The filter press is now correctly plumbed to the Wastewater Treatment System and discharges the treated filter cake water (filtrate) to the designated holding tanks within the secondary containment for processing through the Wastewater Treatment System, and vents and a fan have been installed in the hydro imaging room to temporarily help ventilate to the adjacent rooms which have better ventilation systems while ventilation hoods are installed over the process tank.

Most of the recommendations made in the assessment report have also been implemented. Arnold's has already made adjustments to the sludge thickener tanks for improved performance, they are looking at improving the efficiency of the

Field Notes (cont):

current filter press through better maintenance and are exploring the use of different treatment chemistry for nickel precipitation.

Attachment 5

Final Draft

2013

San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Local Limits Update

Heidi Geiger, PE

City of San Jose - ESD

7/31/2013

2013 San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Local Limits Update

Final Draft

Prepared by

Heidi Geiger, PE
City of San José
Environmental Services Department

July 2013

Executive Summary

This report presents the City of San Jose's (City) evaluation of existing local limits to determine if modifications to these controls are needed to maintain compliance with regulatory requirements applicable to the San Jose/Santa Clara Water Pollution Control Plant (Plant), to protect worker health and safety and to safeguard Plant and collection system infrastructure. Additional factors that were considered in the assessment of the City's existing local limits included special National Pollutant Discharge Elimination System (NPDES) and pretreatment permitting requirements and industrial pretreatment program improvement objectives. The evaluation process was based on the maximum allowable headworks loading (MAHL) method described in the July 2004 United States Environmental Protection Agency (EPA) *Local Limits Development Guidance Manual* (*Guidance Manual)*.

The consulting firm EOA, Inc. located at 1410 Jackson Street, Oakland California, participated in the development of the local limits by providing technical assistance and reviewing a draft of this report.

The conclusion of this updated evaluation was that no updates to local limits are required at this time.

Local Limits Process

The local limits evaluation process prescribed in the *Guidance Manual* is a mass-based approach. First, potential pollutants of concern (POCs) are established based on regulatory and operational requirements. Next, POC allowable headworks loadings (AHL) that achieve regulatory and operational requirements are calculated based on Plant performance data. The minimum AHL for each POC is the POC's MAHL. Finally, for each POC, the ratio of MAHL to the Plant's actual influent loading is compared with *Guidance Manual* criteria to determine whether new local limits should be promulgated for POCs that are not currently regulated, and whether existing local limits should be modified. Note that the "anti-backsliding" concept associated with NPDES permits does not apply to local limits.[1] Local limits may be modified to be more or less stringent or eliminated entirely based on the results of the evaluation.

If the evaluation determines that any local limit needs to be updated, then for each POC requiring a new or revised local limit, the maximum allowable industrial loading (MAIL) is determined by subtracting Plant residential and commercial loadings from the MAHL. The MAIL for each POC is then allocated among regulated industrial users to establish the POC's local limit. The traditional approach to allocate the MAIL among regulated industrial users is to divide the MAIL by the average industrial flow to derive a uniform concentration limit. Since this evaluation determined no updates to local limits were required at this time, MAILs were not calculated.

Selecting POCs

The *Guidance Manual* requires evaluation of 15 POCs and recommends reviewing existing permit for other POCs and those pollutants with existing local limits. The following regulatory standards were reviewed for this evaluation:

- Plant's NPDES Permit No. CA0037842, R2- Order No. R2-2009-0038 with 2010 Order No. R2-2010-0054 and Order No. R2-2012-0096 Updates, [NPDES Permit Orders]
- California Toxics Rule (CTR) water quality criteria (WQC) (2000),
- National Toxics Rule (NTR) WQC (1999),

[1] *EPA Local Limits Development Guidance*, EPA 833-04-002A, United States Environmental Protection Agency, Office of Water Management 4203, July 2004, pg. 9-10e

- Federal Sewage Biosolids Standards (1995),
- Threshold Inhibition Values for Activated Sludge, Nitrification, and Anaerobic Digestion (1987), and
- California State Hazardous Waste Threshold Values (2004).

Collecting Influent, Effluent, and Biosolids Data

Evaluating the performance of current local limits and developing MAHLs for POCs requires various types of pollutant information. Most of the concentration data required were readily available from data collected by the Plant for regulatory compliance. The data assembled for this evaluation included:

- Influent and effluent concentration data for 2008 to June 2012,
- Plant influent, effluent and South Bay Water Recycling flow data for 2008- 2012,
- Industrial user discharge concentration and flow data for 2012.

Summarizing the Results

The POCs were examined by evaluating current influent and effluent concentration information for regulatory compliance. If concentration data were below the minimum detection level for both influent and effluent, then local limits could not be calculated directly for these contaminants. EPA recommends that a POTW conduct a screening analysis for any pollutants determined to be potential POCs. Although a contaminant may initially be considered a potential POC, the POTW may determine, based on the pollutant's concentration and on other data from IUs and commercial dischargers, that the pollutant need not be selected as a POC for the full headworks analysis.

Table E-1 summarizes the rationale given for not assessing several POCs for further local limits evaluation.

Table E-1: Summary of Results of MAHL Analysis

Constituent	Existing Local Limits (mg/l)	Modification
Antimony	5.0	No modification at this time
Arsenic	1.0	No modification at this time
Beryllium	0.75	No modification at this time
Cadmium	0.7	No modification at this time
Chromium, Total	1.0	No modification at this time
Copper	Standard Dischargers – 2.3 Low Flow Dischargers – 2.7	No modification at this time
Cyanide	0.5	No modification at this time
Lead	0.4	No modification at this time
Mercury	0.010	No modification at this time
Molybdenum	None	No addition at this time
Nickel	Standard Dischargers – 0.5 Low Flow Dischargers – 2.6	No modification at this time
Selenium	1.0	No modification at this time
Silver	0.7	No modification at this time
Zinc	2.6	No modification at this time.
Total Phenol	30	No modification at this time.

Contents

Appendices

Tables and Figures Table of Contents

Acronyms

µg/L	micrograms per liter
ADI	anaerobic digestion inhibition
ADRE	average daily removal efficiency
ASI	activated sludge inhibition
AHL	allowable headworks loading
BBI	biosolids-based inhibition
BEF	bioaccumulation equivalency factor
BNR	biological nutrient removal
BOD	biological oxygen demand
CDD	chlorinated dioxin
City	City of San José
CTR	California Toxics Rule
DEHP	di-ethylhexl phthalate
EPA	United States Environmental Protection Agency
ft^2	square feet
$gal/ft^2/d$	gallons per square feet per day
Guidance Manual	July 2004 United States Environmental Protection Agency *Local Limits Development Guidance Manual*
IAHL	industrial allowable headworks loading
MAHL	maximum allowable headworks loading
MAIL	maximum allowable industrial loading
MAS	mass audit study
MECL	mass equivalent concentration limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mgd	million gallons per day
MRE	mean removal efficiency
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit

OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
Plant	San Jose/Santa Clara Water Pollution Control Plant
POC	pollutants of concern
POTW	publicly-owned treatment works
ppd	pounds per day
ppm	parts per million
RCMP	Reasonable Control Measures Plan
Regional Board	San Francisco Bay Regional Water Quality Control Board
RPA	San Jose/Santa Clara Water Pollution Control Plant's 2008 reasonable potential analysis from National Pollutant Discharge Elimination System Permit No. CA0037842, R2- Order No. R2-2009-0038 with 2010 Order No. R2-2010-0054 and Order No. R2-2012-0096 Updates
Special Study	*In-Plant Copper Reduction and Treatment Processes Optimization Program at the San Jose/Santa Clara Water Pollution Control Plant, Environmental Services Department, City of San Jose, December 1998*
STLC	soluble threshold limit concentration
TCDD	tetrachlorodibenzodioxin
TEF	toxicity equivalent factor (for dioxin)
TEQ	toxicity concentration equivalent (for dioxin)
TSS	total suspended solids
TTLC	total threshold limit concentrations
TTO	total toxic organics
WQC	water quality criteria

1.0 Introduction

This report presents the City of San Jose's (City) evaluation of existing local limits to determine if modifications to these controls are needed to maintain compliance with regulatory requirements applicable to the San Jose/Santa Clara Water Pollution Control Plant (Plant), to protect worker health and safety, and to safeguard Plant and collection system infrastructure. Additional factors that were considered in the assessment of the City's existing local limits included special National Pollutant Discharge Elimination System (NPDES) and pretreatment permitting requirements and industrial pretreatment program improvement objectives. The evaluation process was based on the maximum allowable headworks loading (MAHL) method described in the July 2004 United States Environmental Protection Agency (EPA) *Local Limits Development Guidance Manual* (*Guidance Manual)*.

The local limits evaluation process prescribed in the *Guidance Manual* is a mass-based approach. First, potential pollutants of concern (POCs) are established based on regulatory and operational requirements. Next, POC allowable headworks loadings (AHL) that achieve regulatory and operational requirements are calculated based on Plant performance data. The minimum AHL for each POC is the POC's MAHL. Finally, for each POC, the ratio of MAHL to the Plant's actual influent loading is compared with *Guidance Manual* criteria to determine whether new local limits should be promulgated for POCs that are not currently regulated and whether existing local limits should be modified. Note that the "anti-backsliding" concept associated with NPDES permits does not apply to local limits.[2] Local limits may be modified to be more or less stringent or eliminated entirely based on the results of the evaluation.

For each POC requiring a new or revised local limit, the maximum allowable industrial loading (MAIL) is determined by subtracting Plant residential and commercial loadings from the MAHL. The MAIL for each POC is then allocated among regulated industrial users to establish the POC's local limit. The traditional approach to allocate the MAIL among regulated industrial users is to divide the MAIL by the average industrial flow to derive a uniform concentration limit.

The consulting firm EOA, Inc. located at 1410 Jackson Street, Oakland California, participated in the development of the local limits by providing technical assistance and reviewing a draft of this report.

1.1 Previous Local Limits Evaluation

The City routinely assesses the effectiveness of its source control program through statistical evaluations of influent, effluent, and biosolids-loading data as described in its annual Industrial User Pretreatment Compliance Reports. In addition, the City must periodically evaluate local limits to ensure that pretreatment and source control activities continue to protect the San Francisco Estuary, the Plant operations, and the wastewater collection system, as well as comply with state and federal environmental regulations.

The City conducted the last comprehensive technical evaluation of industrial local limits using data from 2001 to 2005 that was summarized in a report entitled, ***2006 Industrial Waste Discharge Local Limits Update***. Although this study concluded that there were no pollutant of concern above the MAHL thresholds, and therefore did not require local limit modifications, at that time the City wanted to change the structure of local limits. Therefore, each local limit was further reviewed for potential local limit modifications. The City recommended removing the maximum allowable concentration local limits for xylene and manganese from the local limits since there were few industries that store

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[2] *EPA Local Limits Development Guidance*, EPA 833-04-002A, United States Environmental Protection Agency, Office of Water Management 4203, July 2004, pg. 9-10e

or use these chemicals on site and the ratios of influent loading to the MAHLs was very low. The City also recommended decreasing the maximum allowable concentration local limit for selenium to match the California hazardous waste STLC limitation to be consistent with other local limits minimum limited by STLC.

The City also recommended changing copper and nickel local limits by removing the three separate limits for Group 1, 2, and 3 dischargers due to the complicated nature of reviewing and enforcing these limits. The 2006 Evaluation concluded that industrial users discharging 1000 gallons per day (gpd) or less of process water were not a significant source of loading, and therefore, maintained the maximum allowable concentrations for copper and nickel previously attributed to Group 3 dischargers of 2.7 mg/L and 2.6 mg/L of copper and nickel, respectively. The City defined these dischargers as “Low Flow Dischargers”. For industrial users discharging over 1000 gpd of process water, the City calculated limits based on the MAIL for both nickel and copper. The City defined these dischargers as “Standard Discharger” and recommended local limits of 2.3 mg/L and 0.5 mg/L for copper and nickel, respectively.

On March 30, 2007 the City received EPA correspondence that included a review of the 2006 evaluation. Based on the review and subsequent meeting with EPA staff on May 15, 2007, EPA indicated approval of nearly all aspects of the 2006 evaluation. However, the EPA did request the removal of the existing Total Toxic Organics (TTO) local limit and requested further clarification regarding the process to calculate local limits for Antimony, Beryllium, and Selenium. Of primary importance to EPA was the allocation of the MAHL between domestic and industrial sectors for these pollutants. The City provided the additional information and removed the total toxic limits in a letter to EPA dated May 31, 2007.

In a letter dated June 20, 2007 EPA recommend that the San Francisco Bay Regional Water Quality Control Board (Regional Board) approve the local limits. In a letter dated June 28, 2007, the Regional Board approved the revised local limits. The San José City Council adopted changes to the local sewer use ordinance (SUO) on December 4, 2007, to incorporate the revised local limits and other proposed changes. The adopted changes went into effect 30 days following adoption on January 4, 2008. Following adoption of the new SUO by the City of San Jose, all the other agencies tributary to the San Jose/Santa Clara Water Pollution Control Plant (Plant) incorporated the changes into their local regulations, and adopted the new requirements. “Table 1: Adoption and Effective Dates for Tributary Agency Sewer Use Ordinance Updates” summarizes the adoption and effective dates for the all of the Plants Tributary Agencies.

Table 1: Adoption and Effective Dates for Tributary Agency Sewer Use Ordinance Updates

Tributary Agency	Adoption date	Effective Date
City of San José	12/4/2007	1/4/2008
City of Milpitas	2/5/2008	3/6/2008
City of Santa Clara	5/20/2008	6/19/2008
West Valley Sanitation District	5/28/2008	6/27/2008

1.1.1 Existing Local Limits

"Table 2: Existing Local Limits" summarizes the currently applicable maximum allowable concentration limits contained in the City's sewer use ordinance.

Table 2: Existing Local Limits

Toxic Substance	Standard Discharger* Maximum Allowable Concentration	Low Flow Discharger* Maximum Allowable Concentration
Antimony	5.0 mg/l	5.0 mg/l
Arsenic	1.0 mg/l	1.0 mg/l
Beryllium	0.75 mg/l	0.75 mg/l
Cadmium	0.7 mg/l	0.7 mg/l
Chromium, Total	1.0 mg/l	1.0 mg/l
Copper	2.3 mg/l	2.7 mg/l
Cyanides	0.5 mg/l	0.5 mg/l
Lead	0.4 mg/l	0.4 mg/l
Mercury	0.010 mg/l	0.010 mg/l
Nickel	0.5 mg/l	2.6 mg/l
Phenol & derivatives	30.0 mg/l	30.0 mg/l
Selenium	1.0 mg/l	1.0 mg/l
Silver	0.7 mg/l	0.7 mg/l
Zinc	2.6 mg/l	2.6 mg/l

*A "Standard Discharger" is defined as an industrial user discharging more than 1000 gpd of process water, and a "Low Flow Discharger" is defined as an industrial user discharges 1000 gpd or less of process water.

1.2 Safety Factors

Because of the considerable amount of high-quality historical concentration data, and the fact that the conservative third decile removal efficiency removal rate was used for the water quality AHLs, a 10 percent safety factor was used for MAHLs to derive MAIL and local limits. This is consistent with the *Guidance Manual*.

2.0 The San Jose/Santa Clara Water Pollution Control Plant

The Plant wastewater treatment train comprises the following treatment processes: preliminary treatment, primary treatment, secondary treatment, filtration, disinfection, and disinfectant removal, as shown in "Figure 1: Plant Schematic". The Plant treats its primary and secondary sludge prior to disposal through sludge dewatering, anaerobic digestion, and lagoon storage. The Plant also has offline flow equalization basins with a total storage volume of 16-million gallons to store wastewater during peak flow periods. Below is a short description of these treatment processes and facilities.

2.1 Preliminary Treatment

Preliminary treatment consists of four climber bar screens to remove large debris from the raw sewage and two grit removal chambers. Effluent from the grit removal process flows into a raw sewage wet well for pumping into the primary sedimentation tanks.

Raw sewage enters the Plant from San Jose through a 103-inch pipe, from Santa Clara through a 78-inch pipe, and from Milpitas through a 36-inch force main. These lines tie in at the inlet control structure located just south of the headworks structure. Four influent sluice gates regulate plant influent to the four climber bar screens.

The mechanically cleaned bar screens remove large objects (e.g., rags, sticks, paper items, etc.) from the influent. Debris removed from screens is lifted onto a dual-direction conveyor belt. During normal operation, screened items are conveyed to a hopper then lifted to a dewatering press via a screw conveyor. The screenings are dewatered to approximately 50 percent solids, and then discharged into a forklift-operated dump bin. Periodically, this bin is dumped into a 30-yard bin for landfill disposal.

The raw sewage then flows to the aerated grit chambers, which uses compressed air to create a rolling motion within the flow, allowing heavy inorganic material and some organic material (e.g., sand, rocks, coffee grounds, eggshells, etc.) to settle out of the wastewater. The settled material is then screw-conveyed to a cyclone separator that uses the properties of a vortex to remove grit from the raw sewage.

From the aerated grit chambers, the sewage flows to the detritors, which also remove grit by gravity settling under low velocity. The baffle obstructions in the tank reduce flow short-circuiting, thereby eliminating localized higher flow velocities. The settled grit is directed to a sump using mechanical arms fitted with sweepers. The grit in the sump is pumped by one of two pumps to one of two cyclone separators. Effluent from the preliminary treatment system is pumped to the primary settling tanks.

2.2 Primary Treatment

Following preliminary treatment, wastewater is pumped into primary clarifiers. The Plant has 24 primary clarifiers with a total surface area of 140,600 square-feet (ft^2) and a design peak overflow rate of 1,930 gallons per square foot per day ($gal/ft^2/d$). The primary clarifiers remove floatable material and settled material. The primary treatment process includes pumping of the floatable and settled solids to scum treatment and solids processing areas, respectively. The diurnal flow of primary influent dictates the surface loading rates on the primary settling tanks.

In any sedimentation tank, those materials that have a higher specific gravity than the sewage will tend to settle, and floating material and grease with a lower specific gravity will tend to rise. As the sludge collectors rotate through the bottom of the sedimentation tanks, the collectors push settled solids or sludge to the tank hopper where it is removed by raw sludge pumps for sludge treatment. As the chain and flight collectors rotate over the surface of the tank, floating material is pushed toward the skimming mechanism (scum pipe drive and scum trough). This material is removed by the automatic skimming device and conveyed to a scum well, where it is discharged to a scum pit.

The preliminary and primary treatment processes remove approximately 98 percent of all settleable solids, 40 to 60 percent of all suspended solids, and 20 to 50 percent of all biological oxygen demand (BOD). The remaining BOD and colloidal and non-settleable solids are conveyed to the Secondary Treatment Process for biological nutrient removal (BNR).

2.3 Secondary Treatment

In 1996, the Plant's secondary treatment was converted from separate activated sludge and nitrification processes to a BNR process. The BNR process involves the removal of ammonia (NH_3) and BOD in the same aeration basins. A two-stage step feed aeration process achieves BNR by routing primary effluent through the former secondary and nitrification systems in parallel (now all considered secondary activated sludge systems). The secondary activated sludge system has 16 aeration basins divided into two batteries (A and B); each battery consists of eight aeration basins. These eight rectangular aeration basins are further divided by baffles into four equal-sized compartments (quads).

The first quad is anaerobic for fermentation to increase volatile fatty acids for improved phosphorous removal. The second quad is aerobic for ammonia nitrification, which is the sequential biological oxidation of ammonia to nitrite (NO_2), and then to nitrate (NO_3). The third quad is anoxic and receives 40% of the primary treated wastewater to promote denitrification, which is the biological reduction of nitrate to nitrogen gas (N_2), and reduction of soluble BOD. The final quad is aerobic and promotes oxidation of BOD and ammonia from the 40% portion of the primary effluent that enters quad 3 and maintains sufficient dissolved oxygen in the mixed liquor

The effluent from the aeration basins flows to clarifiers for solids removal via settling. The plant has 26 secondary clarifiers, with a total surface area of 227,500 square feet and a design peak overflow rate of 880 gallons per square feet per day. The majority of settled solids are returned to the aeration basins, and a fraction is wasted to the dissolved air flotation tanks for solids processing. Secondary effluent from each clarifier is collected in the effluent conduit and transported by gravity to the filter influent pump station from which it is pumped to the dual-media filters.

2.4 Filtration

Each dual-media filter bed consists of a tile under drain system installed on the filter floor. The dual-media filter has layers of silica gravel, silica sand, and two layers of anthracite coal—all supported by the under drain system. Total filter surface area is 22,080 ft^2, and the single filter surface area is 1,380 ft^2. The maximum filter flow rate is 158 million gallons per day (mgd). Backwash water loaded with debris from filter cleaning is routed to a backwash equalization basin for storage before alum addition and flocculation. The chemically conditioned backwash water is then pumped to the raw sewage wet well for solids removal.

2.5 Disinfection

Effluent from the dual media filters is disinfected using chloramination by adding sodium hypochlorite and ammonia into the chlorine contact chamber. Disinfection is followed by dechlorination using sodium bisulfate solution. When required, caustic soda is added following dechlorination for pH adjustment. The effluent discharges to the Alviso Slough and to the South San Francisco Bay, "Figure 2: Photo of Plant Effluent" shows the discharge to the slough.

Figure 1: Plant Schematic

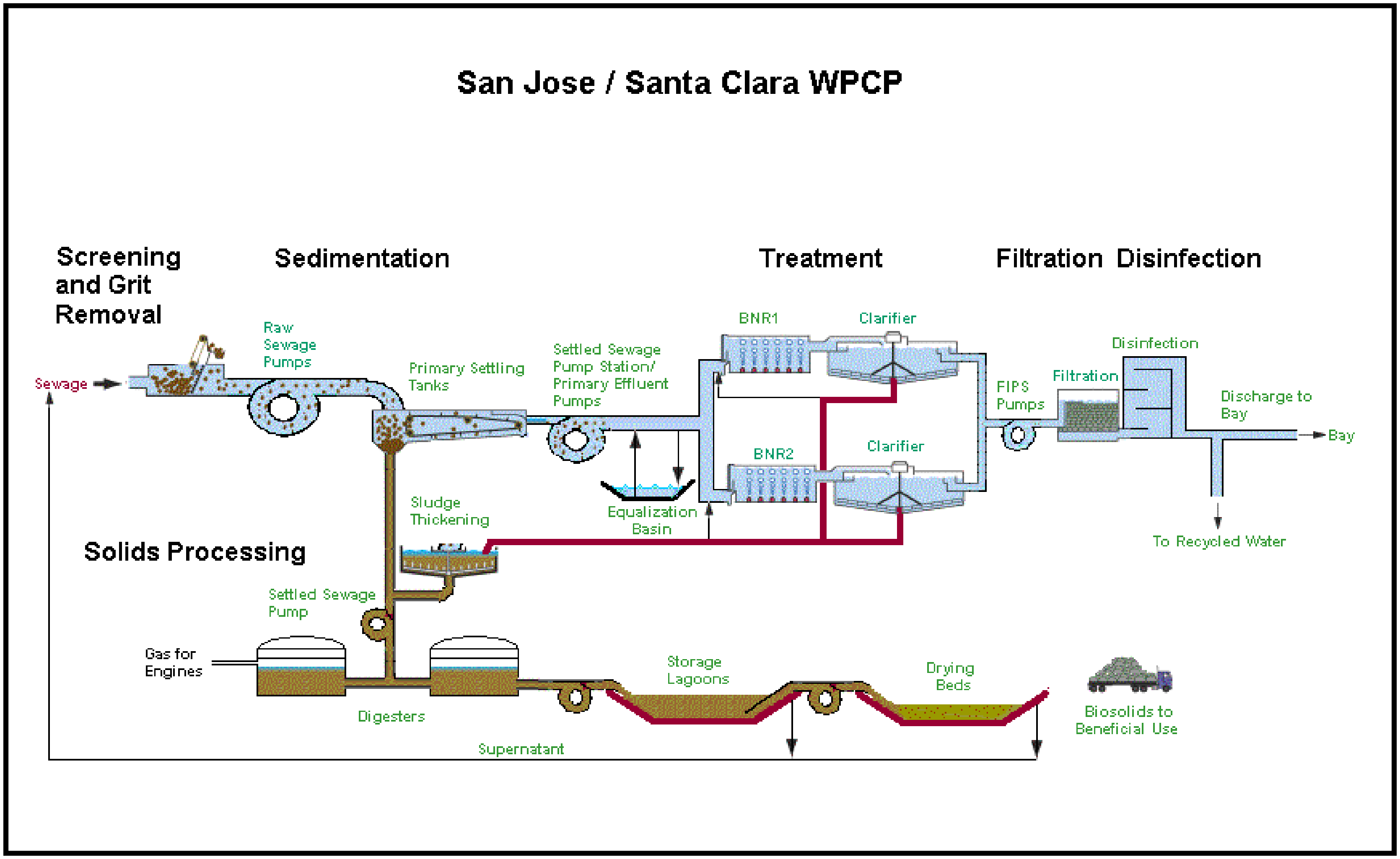


Figure 2: Photo of Plant Effluent

2.6 Solids Processing

The dissolved air floatation system receives sludge from the primary sedimentation basins and wasted activated sludge from the secondary clarifiers. Dissolved air flotation further thickens the sludge before it enters the anaerobic digesters. Supernatant from dissolved air floatation returns to headworks.

Digested sludge from the anaerobic digesters is pumped to 28 active sludge lagoons. The lagoons are grouped in four blocks, with each block containing from six to eight lagoons. It normally takes one year to fill a lagoon block. While one block is being filled, one block is emptied, and the other two blocks are stabilizing the sludge to Class A quality. After two to three years of stabilization, dredged sludge is pumped to drying beds where it takes about three to four months to dry. Once dried, the sludge is stockpiled for transportation by outside contractors to a beneficial reuse site.[3]

[3] San Jose/Santa Clara Water Pollution Control On line Operational Manual, City of San Jose Environmental Services Department, 1/26/06 Update

2.7 Operational Issues and Compliance

Between 2008 and 2012 there were no operational issues at the Plant due to influent toxicity. The Plant has been in compliance with its regulatory requirements for conventional pollutants and toxic substances since its most recent reissuance of NPDES Permit Number CA-0037842, Water Board Order R2-2009-0038 in 2009.

Grease blockages have occasionally occurred in the collection system. These blockages are assumed to have been caused by residential and restaurant grease. The City of San José has a restaurant inspection program to educate restaurant and other food facility operators about proper grease disposal and to enforce maintenance requirements. All new restaurants and food facilities are required to complete a plan check to ensure the proper installation of grease removal devices.

Hydrogen sulfide odor is also a potential issue for the collection system. Most sulfide production results from long flat sewer lines in residential areas entering drop manholes, causing release of sulfide gas into the atmosphere. The City has installed two biofilters to control hydrogen sulfide emissions and continually treats one of the main trunk lines with ferrous chloride to precipitate the sulfide from solution.

"Table 3: Annual 2008 to 2012 Plant Influent, Final Effluent, and South Bay Recycled Water Flow Rates" summarizes the flow rate data used for this evaluation. This local limits evaluation used the 2008-2012 influent annual average Plant influent flow rates to calculate the applicable allowable headworks loadings and daily pollutant loading.

Table 3: Annual 2008 to 2012 Plant Influent, Final Effluent, and South Bay Recycled Water Flow Rates

Years	Effluent Discharged to Bay (mgd)	Plant Influent Flows (mgd)	South Bay Recycled Water Flow Rates
2008	100	111	15
2009	96	107	14
2010	100	110	8
2011	100	110	8
2012	94	107	11
Average	**98**	**109**	**11**

3.0 MAHL Analysis Process for Evaluating Local Limits

The present evaluation of industrial local limits was based on criteria described in the *Guidance Manual*. The steps of this evaluation process included:

- Developing POCs criteria,
- Collecting influent, effluent, and biosolids data,
- Selecting POCs,
- Calculating removal rates for potential POCs,
- Calculating AHL for each POC,
- Determining MAHL for each POC,
- Identifying POCs requiring new or revised local limits,
- Calculating the MAIL for POCs requiring new or revised local limits, and
- Allocating the MAIL among industrial users.

The following sections describe each of these steps in more detail.

3.1 Developing POCs Criteria

The primary objective of this evaluation was to develop local limits that protect the collection system, the wastewater treatment facility, the health and safety of personnel, and the environment. The following regulatory standards were reviewed for this evaluation:

- Plant's NPDES Permit No. CA0037842, R2- Order No. R2-2009-0038 with 2010 Order No. R2-2010-0054 and Order No. R2-2012-0096 Updates
- California Toxics Rule (CTR) water quality criteria (WQC) (2000),
- National Toxics Rule (NTR) WQC (1999),
- Federal Sewage Biosolids Standards (1995),
- Threshold Inhibition Values for Activated Sludge, Nitrification and Anaerobic Digestion (1987), and
- California State Hazardous Waste Total Limit Concentrations (TTLC) and Soluble Threshold Limit Concentration (STLC) Values (2004).

3.2 Collecting Plant Influent, Effluent, and Biosolids Data

Evaluating the performance of current local limits and developing MAHLs for POCs requires various types of pollutant information. Most of the concentration data required was readily available from data collected by the Plant for regulatory compliance. The data assembled for this evaluation included:

- Influent, effluent, and biosolids concentration data for January 2008 to June 2012,
- Plant influent, effluent and South Bay Water Recycling flow data for 2008- 2012, and
- Industrial user discharge concentration and flow data for 2012,
- Biosolids characteristics and annual metric tons disposal per year.

The *Guidance Manual* recommends using a minimum of 3 years of data. This evaluation used four and half years of data from January 2008 through June 2012. Data from 2008 onwards were included to incorporate data from the last permit reasonable pollutant analysis. The expanded data range provides a conservative bias to the MAHL process.

3.2.1 Non-detectable Data

Laboratory analytical methods may provide different minimum detection limits (MDLs) and minimum reporting levels (MLs). For this report, the MDL is the lowest concentration level the laboratory can detect as defined in 40 CFR Part 136, whereas MLs represents the lowest calibration standard used for a specific analytical procedure. The Plant's 2009 NPDES permit includes criteria for the MLs for pollutant effluent limits, and includes other requirements related to MLs. For this evaluation, EPA-approved test methods were initially selected to provide a numerical value above the minimum detection level. However, there is a point for each contaminant at which the concentration becomes too low to be accurately detected by the most sensitive standard methods presently available.

Although numerical values above the minimum detection level and below the minimum reporting level can be determined, these values are not accurate enough to be considered quantifiable for comparison with regulatory limits. Therefore, these values are considered "detected but not quantified (DNQ)."

For this local limits evaluation, the DNQ values were used for developing the pollutant removal rates and evaluating the influent and effluent loading, where available. Any results below the minimum detection limits were replaced with one half minimum detection limits.

3.2.2 Influent Data Outliers

The *Guidance Manual* states that influent spikes from spills should not be used as a basis for decreasing local limits. In addition, with such a large number of analytical results, unrepresentative "outliers" values are likely to occur, as a result of sampling or analysis process. Therefore, consistent with recommendations in the *Guidance Manual*, this evaluation did not include influent concentration outliers for metals and conventional pollutant. Since most organic contaminants had much smaller data sets than that for metals and conventional parameters, organics were not evaluated for outliers.

3.2.2.1 Outlier Determination

The process for determining outliers including normalizing the data, and then plotting the data to determine the multiple of the standard deviation where data breaks from the normalized trend. The following is an example of the steps used to determine the appropriate standard deviation outlier break point using Silver as an example:

- Calculate the mean (μ) of the data set.
- Calculate the standard deviation (θ).
- Normalize the influent concentration data by calculating Z and f(Z) for each result using the following formulas:

$$Z = \frac{(\text{Influent Concentrationi} - \mu)}{\theta}$$

$$f(Z) = \frac{1}{\sqrt{2 * \pi}} \times e^{-(\frac{Z^2}{2})}$$

- Plot "Z" versus "f(Z)", as shown in "Figure 3: Normalized Influent Silver Concentration with Outlier Break Point Shown".
- Determine the optimal Z, or standard deviation factor where the f(Z) approaches the zero on the f(Z) axis (As shown in red font in "Figure 3: Normalized Influent Silver Concentration with Outlier Break Point Shown" as the last prior to approaching zero on the vertical axis.)
- Identify the Outlier standard deviation factor and influent data corresponding to f(Z).
- Designate any data above this Influent Concentration as an outlier.

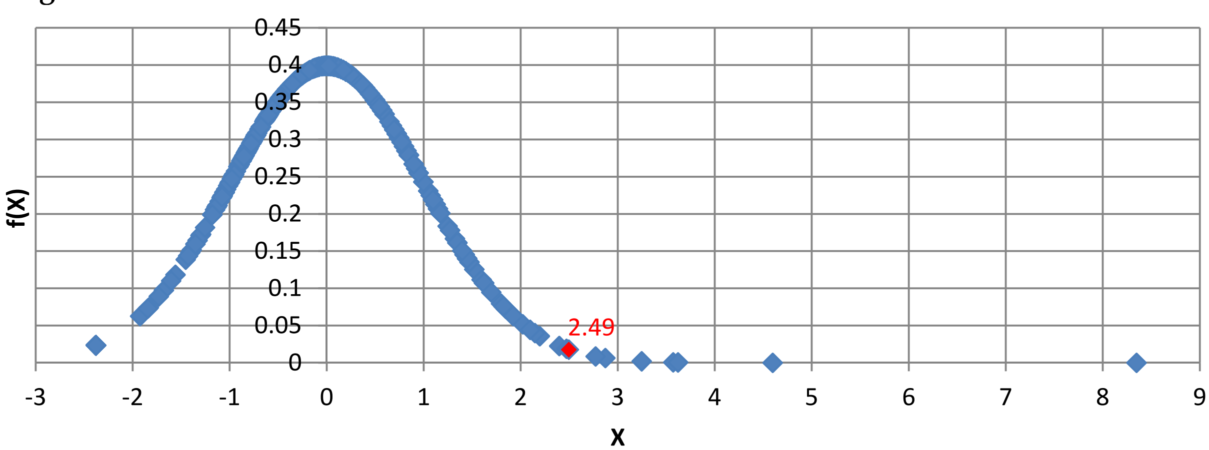
"Table 4: Outlier Break Point Standard Deviation for POCs" lists the mean influent concentration mean, the standard deviation, the outlier Standard Deviation Factor multiplier, and the resulting Influent Concentration at the Outlier Standard Deviation Factor.

Table 4: Outlier Break Point Standard Deviation for POCs

Pollutant of Concern	Influent Concentration Mean with outliers included (µg/L)	Influent Concentration 1 X Standard Deviation (µg/L)	Outlier Break Point Standard Deviation Factor	Influent Concentration at Outlier Standard Deviation Factor (µg/L)
Antimony	0.75	0.21	2.2	1.2
Arsenic	1.75	0.44	2.8	3.0
Beryllium	0.036	0.064	2.7	0.37
Cadmium	0.27	0.10	2.6	0.53
Chromium Total	5.22	1.59	2.7	9.5
Copper	139	48	2.2	250
Cyanide	0.82	0.50	3.0	2.3
Lead	5.2	3.6	2.5	14
Mercury	0.20	0.11	2.5	0.49
Molybdenum	7.8	2.0	2.8	13
Nickel	12	4.9	3.0	26
Selenium	2.2	0.90	3.0	4.4
Silver	0.95	0.40	2.5	2.0
Zinc	180	33	2.5	270
Ammonia	310,000	31,000	3.0	398,000
BOD	360,000	48,000	2.9	500,000
TSS	300,000	62,000	2.7	470,000
Phenols*	NA	NA	NA	NA

*There were two few influent values for Phenol to remove outliers.

Figure 3: Normalized Influent Silver Concentration with Outlier Break Point Shown



3.3 Selecting POCs

The following sections describe how toxic and conventional pollutants were evaluated for inclusion on the final list of POCs to be examined through the MAHL process. A POC is any pollutant that might reasonably be expected to be discharged to the Plant in sufficient amounts to cause pass through or interference, compromise biosolids quality, cause problems in its collection system, or jeopardize worker safety. Pollutants contributing to or known to cause operational problems are also considered POCs even if the pollutants are not currently causing NPDES permit violations. The methods used to determine POCs should account for daily fluctuations in the Plant's pollutant loadings and data availability.

The POCs were examined by evaluating current influent and effluent concentration information for regulatory compliance. If concentration data were below the minimum detection level for both influent and effluent, then local limits could not be calculated directly for these contaminants. EPA recommends that a POTW conduct a screening analysis for any pollutants determined to be potential POCs. Although a contaminant may initially be considered a potential POC, a POTW may determine, based on the pollutant's concentration and on other data from IUs and commercial dischargers, that the pollutant need not be selected as a POC for the full headworks analysis.

3.3.1 EPA-Recommended POCs

EPA has identified 15 pollutants often found in POTW sludge and effluent that it considers potential POCs. EPA recommends that each POTW, at a minimum, screen for the presence of these 15 pollutants using data on industrial user (IU) discharges and collected from samples of POTW influent, effluent, and sludge. These "National" POCs include:

- Ammonia,
- Arsenic,
- BOD,
- Cadmium,
- Chromium (total),
- Copper,
- Cyanide,
- Lead,
- Mercury,
- Molybdenum,
- Nickel,
- Selenium,
- Silver,
- TSS, and
- Zinc.

Cadmium, chromium, copper, lead, nickel, and zinc are recommended for evaluation because of their widespread occurrence in POTW influents and effluents at concentrations that may warrant concern. Arsenic, cyanide, and silver are not as widespread in POTW influents, but these constituents have particularly low biological process inhibition and/or aquatic toxicity values. Cyanide is also a concern due to its potential to develop toxic sewer gases. Molybdenum and selenium are of potential concern because they are regulated through the federal biosolids regulations. Selenium is also of special interested in the San Francisco Bay Area due to its predominance for bioaccumulation. The EPA recommends including the conventional pollutants BOD, ammonia, and TSS because many POTWs nationwide have issues with these pollutants.[4] The *Guidance Manual* considers ammonia as a "conditional" POC for POTWs that accept non-domestic sources of ammonia.

3.3.1.1 Screening Analysis for "National" POCs

The conventional contaminants ammonia, biochemical oxygen demand, and total suspended solids warrant further technical analysis to determine their appropriateness as POCs. The following presents a discussion of these conventional pollutants as POCs.

3.3.1.1.1 Ammonia

The NPDES permit limits for ammonia are 8 mg/L as a daily maximum and 3 mg/L as a monthly average. Ammonia has not been considered a POC in the past due to the over-design of the Plant for the now closed canneries, and because all effluent data were found to be well below the applicable NPDES permit limits between 2008 and 2013. Plant effluent ammonia data for the period 2008 – 2013 are characterized by a mean of 0.8 mg/L and a maximum of 5 mg/L. In addition, the City has a narrative "interfering substances" sewer use ordinance limitation that has proven protective of the collection system and treatment plant with respect to ammonia. Section 15.14.585 Part B of the San José Municipal Code reads:

> *No person shall discharge, cause, allow, or permit to be discharged into the sanitary sewer system or any part thereof, any toxic or poisonous substances or any other pollutant, including biochemical oxygen demand, in sufficient quantity to injure or cause an interference with the sewage treatment process, or in sufficient quantity to constitute a hazard to humans or animals, or in sufficient quantity to create a hazard for humans, or aquatic life in any waters receiving effluent from the sanitary sewer system, or which may create a hazard in the use or disposal of sewage sludge.*

The City implements ammonia regulation on its largest industrial dischargers, those discharging greater than 25,000 gallons of wastewater daily, through a "revenue program" whereby the industrial facility is charged according to the strength of sewage discharged to the collection system. Ammonia concentration is a factor in determining the sewage strength.

Based on these factors, the City finds that further review of ammonia for evaluation as an industrial local limit is not warranted at this time. In addition, ammonia would not reasonably be expected, with pretreatment regulations and wastewater treatment currently in effect, to result in pass through, interference, biosolids contamination, collection system problems, or increased worker jeopardy. However, this evaluation does include the calculation of an MAHL for Ammonia to conform to the *Guidance Manual* standard.

3.3.1.1.2 Biochemical Oxygen Demand (BOD)

The NPDES permit limits for BOD are 20 mg/L as a daily maximum and 10 mg/L as a monthly average. BOD has not been considered a POC in the past due to the over design at the Plant for now closed canneries, and all effluent data were found to be well below the applicable NPDES permit limits between 2008 and June 2012. Plant effluent BOD data for the period January 2008 – June 2012 are characterized by a mean of 3 mg/L and a maximum of 9 mg/L. In addition, the City has a narrative "interfering substances" sewer use ordinance limitation that has proven protective of the collection system and treatment plant with respect to BOD.

The City implements BOD regulation on its largest industrial dischargers, those discharging greater than 25,000 gallons of wastewater daily or 300 mg/L of BOD, through a "revenue program" whereby

4 EPA Local Limits Development Guidance, EPA 833-04-002A, United States Environmental Protection Agency, Office of Water Management 4203, July 2004, pg. 3-1

the industrial facility is charged according to the strength of sewage discharged to the collection system.

Therefore, further review of BOD for evaluation as an industrial local limit is not warranted at this time. In addition, BOD would not reasonably be expected, with pretreatment regulations currently in effect, to result in pass through, interference, biosolids contamination, collection system problems, or increased worker jeopardy. However, this evaluation does include the calculation of an MAHL for BOD to conform to the *Guidance Manual* standard.

3.3.1.1.3 Total Suspended Solids (TSS)

The NPDES permit limits for TSS are 20 mg/L as a daily maximum and 10 mg/L as a monthly average. TSS has also not been considered a POC in the past due to overdesign at the Plant for now closed canneries, and all effluent data were found to be far below the applicable NPDES permit limits between 2008 and June 2012. Plant effluent TSS data for the period January 2008 – June 2012 are characterized by a mean of 1.4 mg/L of and a maximum of 4.3 mg/L. In addition, the City has a narrative "suspended solids/dissolved matter" sewer use ordinance limitation that has proven protective of the collection system and treatment plant with respect to TSS. Section 15.14.595 of the San Jose Municipal Code reads:

> *No person shall discharge, cause, allow or permit to be discharged into the sanitary sewer system or any part thereof, any liquid containing suspended solids or dissolved matter of such character and quantity that unusual attention or expense is required to handle, process or treat such matter at the Plant.*

The City implements TSS regulation on its largest industrial dischargers, those discharging greater than 25,000 gallons of wastewater daily, through a "revenue program' whereby the industrial facility is charged according to the strength of sewage discharged to the collection system.

In addition, TSS would not reasonably be expected, with pretreatment regulations currently in effect, to result in pass through, interference, biosolids contamination, collection system problems, or increased worker jeopardy. Therefore, further review of TSS for evaluation as an industrial local limit is not warranted at this time. However, this evaluation does include the calculation of an MAHL for TSS to conform to the *Guidance Manual* standard.

3.3.2 Reasonable Potential POCs

The *Guidance Manual* recommends that any contaminant that has a "reasonable potential" to be discharged in amounts that could exceed water quality criteria should be considered a POC and evaluated accordingly. However, a POTW does not have to develop a local limit for every pollutant for which there is a water quality standard or criterion. A reasonable potential analysis (RPA) completed in 2008 as part of the NPDES Permit reissuance process found that the following constituents had a "reasonable potential" to cause or contribute to a water quality exceedance:

- Copper,
- Mercury,
- Nickel,
- Cyanide,
- Dioxin TEQ,
- Heptachlor, and
- Tributyltin

Copper Mercury, Nickel and Cyanide are already included in the POC analysis. The following discusses the reasonable potential and the appropriateness of local limit control for Dioxin TEQ, Heptachlor and Tributyltin.

3.3.2.1 Dioxins-Toxicity Equivalent and PCBs

Dioxins are a family of 75 chemically related compounds commonly known as chlorinated dioxins. One of these compounds is 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin) and it is the most toxic form of dioxin and the most studied. TCDDs are not intentionally manufactured by industry except for research purposes. TCDDs (mainly 2,3,7,8-TCDD) may be formed during the chlorine bleaching process at pulp and paper mills. TCDDs are also formed during chlorination by waste and drinking water plants. By far, the greatest unintentional production of TCDDs occurs via various combustion and incineration processes, including all forms of waste incineration (municipal, industrial, and medical); many types of metal production (iron, steel, magnesium, nickel, lead, and aluminum); and fossil fuel and wood combustion.[5]

Although 2,3,7,8-TCDD has never been detected in Plant effluent, other dioxin congeners have been detected using research-based low-level monitoring techniques. Each of the cogeners has a toxicity equivalency factor (TEF) that is multiplied by that cogener's result to derive a toxicity concentration "equivalent" to 2,3,7,8-TCDD . The total of these adjusted cogener concentration is referred to as the "dioxin TEQ" value, and is compared with the 6.3 X 10^{-5} µg/L interim monthly average limit for dioxin –TEQ specified in order R2-2009-0038. In 2010, the 2009 Permit limit was amended by Order R2-2010-0054(new "Attachment G") to incorporate cogener bioaccumulation equivalency factors (BEFs) in addition to the TEFs. For each cogener, the analytical result is multiplied by both the TEF and BEF, and the sum of these adjusted concentrations determines the dioxin-TEQ value. The TEQ values reviewed for this local limit update were well below the Permit's dioxin TEQ limit.

In accordance with the Mercury and PCBs Watershed Permit, Permit # CA0038849, reissued as Order No. R2-2012-0096, PCBs are measured semi-annually as total aroclors using EPA method 608 for regulatory compliance. PCBs were not detected using this method.

In addition, a 2000 City report entitled *Selected Organics Source Investigation – Program Report* described an evaluation of industrial processes that could generate and discharge organochlorine pesticides, PCBs, or dioxin to the Plant. These processes include pesticide manufacturing, incineration with fume scrubbers, and paper production. The report concluded that no known industrial facilities that could generate organochlorine pesticides, PCBs, or dioxin were located in the Plant service area.[6] This analysis remains applicable today since the composition of the industrial community has not changed appreciably from that in 2000. Appendix A lists the industrial users in the service area per July 31, 2013.

3.3.2.2 Heptachlor

The most stringent applicable heptachlor of 0.00021 µg/L water quality criterion is the CTR criterion for protection of human health. The 2009 Order found reasonable potential and thus established effluent limitations for heptachlor because the minimum effluent concentration in the previous permit RPA Analysis (0.038 µg/L) exceeded this CTR criterion. The single detected concentration may have been bad data or related to a dumping incident because heptachlor was banned for use in killing insects in homes, buildings, and on food crops in 1988. Its current use is limited to fire ant control in underground power transformers. All of the influent and effluent data were below detection limits. . In addition, it would not reasonably be expected that heptachlor would lead to interference, biosolids contamination, collection system problems, or increased worker jeopardy. Therefore, heptachlor is not included for further analysis.

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5 Toxicological Profile for Chlorinated Dibenzo-p-dioxins (CDDs), U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR), http://www.atsdr.cdc.gov/toxprofiles/tp104-c4.pdf, page 369, December 1998

6 "Selected Organics Source Investigation – Program Report", July 2000 CBS Report

3.3.2.3 Tributyltin

In 2009 Permit, the reasonable potential analysis led to 0.0071 μg/L daily maximum and 0.012 μg/L average monthly permit limits for tributytin compounds. Tributyltin compounds are a subgroup of the trialkyl organotin family of compounds. They are the main active ingredients in biocides used to control a broad spectrum of organisms. Uses include wood treatment and preservation, antifouling of boats (in marine paints), antifungal action in textiles and industrial water systems, such as cooling tower and refrigeration water systems, wood pulp and paper mill systems, and breweries.

On December 11, 1995, the California Department of Pesticide Regulation enacted a San Francisco Bay area prohibition on the sale and use of tributyltin-containing cooling water additives. This action was taken to protect Bay water quality. The State Department of Pesticide Regulation has notified manufacturers and major distributors of the product sale and use ban. Whether notification was received or not, manufacturers and distributors are legally liable for selling these products in the nine San Francisco Bay area counties (San Francisco, Santa Clara, San Mateo, Alameda, Contra Costa, Solano, Napa, Marin, and Sonoma). Cooling water system owners and operators are also legally liable for using the banned product. In 2003, the International Maritime Organization banned the use of tributyltin that's used in anti-fouling paint on ships. The ban started in 2003 and all tributyltin based paints were to be phased out by 2008.

No further local limits action for tributyltin is planned at this time since this contaminant has been below the effluent minimum detection limits since 2008 and has been banned from sale and use by the state of California since 1995. The City will continue to routinely monitor the effluent for tributyltin detections and will periodically distribute educational outreach materials to affected users as appropriate. In addition, it would not reasonably be expected that tributyltin would lead to interference, biosolids contamination, collection system problems, or increased worker jeopardy.

3.3.3 NPDES Permit Limit POCs

Conventional pollutants with limitations in the NPDES Permit should be considered when evaluating local limits. The following conventional pollutants from the 2008 NPDES Permit have already been assessed above as POCs: BOD, Ammonia and Totals Suspended Solids. The following presents a discussion of the remaining conventional pollutants for a determination of their inclusion as a POC:

3.3.3.1 Oil and Grease

The NPDES permit limits for oil and grease are 10 mg/L as a daily maximum and 5 mg/L as a monthly average. The influent is rarely analyzed for oil and grease concentration as this parameter has not been considered a POC in the past, and all effluent data were found to be well below the minimum reporting level of 5 mg/L between January 2008 and June 2012. The current 150 mg/L oil and grease industrial limit functions to protect the collection system from flow obstructions. The City’s current local limit is deemed satisfactory since it has protected the collection system from unfavorable effects due to oil and grease contamination. Therefore, further review of oil and grease for evaluation as an industrial local limit is not warranted at this time. In addition, oil and grease would not reasonably be expected to result in pass through, interference, biosolids contamination, collection system problems, or increased worker jeopardy.

3.3.3.2 Turbidity

The NPDES permit limit for turbidity is 10 NTUs as an instantaneous maximum. The Plant effluent has exhibited turbidity values significantly below this limitation between 2008 and June 2012, with effluent concentrations characterized by a mean value of 1.2 NTU and a maximum value of 3.7 NTU. In addition, the City has a narrative “colored matter” sewer use ordinance limitation that has proven protective of the collection system and treatment plant. Therefore, further review of turbidity for evaluation as an industrial local limit is not warranted at this time. In addition, turbidity would not reasonably be expected to result in interference, biosolids contamination, collection system problems, or increased worker jeopardy.

3.3.4 Local Limits POCs

Local limits are developed to reflect specific needs and capabilities at individual POTWs and are designed to protect the ambient receiving waters. Regulations in 40 CFR 403.8(f)(4) state that POTW Pretreatment Programs must develop local limits or demonstrate that they are unnecessary; 40 CFR 403.5(c) states that local limits are needed when pollutants are received that could result in pass through or interference at the POTW. Essentially, local limits translate the general prohibited discharge standards of 40 CFR 403.5 to site-specific needs.

Toxic substances with local limits already regulated by the sewer use ordinance should be evaluated to determine if a constituent should remain a POC. The pollutants with industrial local limits not already assessed above include: antimony, beryllium, manganese, phenol and its derivatives (total phenol).

3.3.4.1 Phenols and Derivatives

Phenols and Derivatives used to have a criterion in the previous guidelines prior to the development of the *Guidance Manual* that is no longer applicable. There are criteria for the various components of the phenols, but not one for the sum. In addition, the effluent values for all phenols were below the detection limit. Only phenol had values that were above the detection limit. Therefore, this evaluation used the NTR limit concentration of 21,000 µg/L, as criteria for phenol to derive the MAHL. The recommendation is that future local limits analyses consider removing this limit from the local limits after the Plant undergoes the significant modifications that will occur after implementation of the Plant's Master Plan.

3.3.5 Other Organics

Prior to the 2006 Local Limits Evaluation, there was a local limit for total toxic organics. The evaluation included screening 2008 to 2011 data to determine if any of these pollutants would pose a reasonable potential. This screening did not identify any new POC with reasonable potential. Appendix C summarizes the screening for organics data.

3.3.6 2013 POC for MAHL Analysis

"Table 5: Maximum and Average Influent and Effluent Selected POC Concentrations from January 2008 to June 2012" lists the 2013 POCs that have been selected for further local limits analysis, along with concentration and loading data the period January 2008 –June 2012. The sources of each POC is listed in "Table 6: Sources of POC Criteria for Calculation of Each AHL". Sources include the NTR, the CTR with values from Reasonable Potential Analysis from the NPDES Permit Orders (CTR-RPA to account for hardness), NPDES Permit Orders daily maximum and monthly averages (Permit MA and Permit DM, respectively), *Guideline Manual Appendix* Tables Minimum and Average Values for inhibition criteria (Table Min and Table Avg, respectively), and TTLC criteria. These concentration and loading values will be used for comparison with the MAHL developed in the next section.

Table 5: Maximum and Average Influent and Effluent Selected POC Concentrations from January 2008 to June 2012*

Pollutant of Concern	January 2008-June 2012 Maximum Influent		January 2008-June 2012 Average Influent		January 2008-June 2012 Maximum Effluent		January 2008-June 2012 Average Effluent	
	µg/L	ppd	µg/L	ppd	µg/L	Ppd	µg/L	ppd
Antimony	1.2	1.1	0.72	0.66	0.58	0.48	0.41	0.33
Arsenic	2.8	2.5	1.8	1.6	1.8	1.5	1.0	0.86
Beryllium	0.29	0.26	0.030	0.028	0.21	0.17	0.0082	0.0067
Cadmium	0.46	0.42	0.26	0.24	0.15	0.13	0.018	0.014
Chromium (Total)	9.5	8.6	5.1	4.6	1.1	0.9	0.53	0.44
Copper	230	210	130	120	3.0	2.5	3.0	2.5
Cyanide	1.8	1.6	0.75	0.68	8.4	6.9	2.6	2.1
Lead	14	13	4.8	4.4	1.0	0.8	0.32	0.26
Mercury	0.49	0.45	0.19	0.171	0.0048	0.0039	0.0019	0.0015
Molybdenum	13.4	12.2	7.7	7.0	22	18	5.4	4.4
Nickel	20.8	18.9	11.0	10.0	9.2	7.5	6.2	5.1
Selenium	3.7	3.3	2.0	1.9	0.67	0.55	0.46	0.38
Silver	2.0	1.8	0.92	0.84	0.16	0.13	0.022	0.018
Zinc	240	218	173	157	36	29	22	18
Ammonia	40,000	36,000	31,000	28,000	5100	4,200	780	640
BOD	500,000	460,000	360,000	330,000	9000	7,400	3,200	2,260
TSS	470,000	420,000	290,000	260,000	4300	3,500	1,400	1,200
Phenols	15	14	8.4	7.6	0.38	0.31	0.31	0.26

* Rounded to two significant digits

Table 6: Sources of POC Criteria for Calculation of Each AHL

POC	WQC µg/L	WQ Source	ASI Criteria µg/L	ASI Source	NI Criteria µg/L	NI Source	ADI Criteria µg/L	ADI Source	BBI Criteria mg/kg dry weight	BBI Source
Antimony	4300	NTR	-	-	-	-	-	-	677	TTLC
Arsenic	36	CTR-RPA	100	Tables Min	1,500	Tables Min	1,600	Tables Min	30	Disposal ≤25 ft from active biosolids unit
Beryllium	-	-	-	-	-	-	-	-	101	TTLC
Cadmium	7.3	CTR-RPA	1,000	Tables Min	5,200	Tables Min	20,000	Tables Min	39	Land Application
Chromium (Total)	200	CTR-RPA	1,000	Tables Min	250	Tables Min	110,000	Tables Min	3,378	TTLC
Copper	12	Permit MA	1,000	Tables Min	265	Table Avg	40,000	Tables Min	1,500	Land Application
Cyanide	5.3	Permit MA	100	Tables Min	340	Tables Min	1,000	Tables Min	-	-
Lead	135	CTR-RPA	1,000	Tables Min	500	Tables Min	340,000	Tables Min	300	Land Application
Mercury	0.025	Permit MA	100	Tables Min	-	-	-	-	17	Land Application
Molybdenum	-	-	-	-	-	-	-	-	4,730	TTLC
Nickel	25	Permit MA	1,000	Tables Min	250	Tables Min	10,000	Tables Min	210	Disposal ≤25 ft from active biosolids unit
Selenium	5.0	NTR	-	-	-	-	-	-	100	Land Application
Silver	2.2	CTR-RPA	-	-	-	-	13,000	Tables Min	676	TTLC
Zinc	170	CTR	300	Tables Min	300	Table Avg	400,000	Tables Min	2,800	Land Application
Ammonia - N	3,000	Permit MA	480,000	-	-	-	1,500,000	Tables Min	-	-
CBOD	10,000	Permit MA	-	-	-	-	-	-	-	-
TSS	10,000	Permit MA	-	-	-	-	-	-	-	-
Phenols	21000	NTR	-	-	-	-	-	-	-	-

3.4 Calculating Removal Rates

Removal rate is the percentage of the influent POC that is removed from the wastewater through the wastewater treatment process. Removal rates for each POC are fundamental inputs to the MAHL calculations. Removal efficiency methodologies vary by degree of data quality and calculation method. This report utilizes two types of removal rates based on the specific AHL calculation performed: Primary effluent removal rates and final effluent removal rates.

3.4.1 Primary Effluent Removal Rates

The *Guidance Manual* recommends using primary effluent removal rates for both activated sludge and nitrification inhibition calculations based on a traditional activated sludge/nitrification process where primary effluent enters the activated sludge followed by the nitrification treatment system, However, since the Plant‘s BNR treatment process combines the activated sludge and nitrification treatment into one process, primary effluent enters the BNR process and the "activated sludge" and "nitrification" quads at the same time . Therefore, the "primary removal rate" was used instead of the "secondary removal rate" in the nitrification inhibition AHL and the activated sludge inhibition equations.

The primary removal rate is the percentage of influent potential POC loading that is removed from the wastewater through the Plant's primary processes. These processes included the bar screen, grit removal, and primary sedimentation systems. Most of the other POCs required using either literature values from the *Guideline Manual Appendix* "R" or an assumed "worse case scenario" of zero percent removal. Only copper and nickel had Plant-specific primary removal rates already determined from a 1998 investigation *entitled In-Plant Copper Reduction and Treatment Processes Optimization Program (Special Study* in Table 8*)*.[7] Since there are no primary effluent criteria for arsenic or ammonia available in the literature, the primary effluent removal rate is conservatively assumed to be zero percent. "Table 8: Selected Removal Rates for POCs per Application" summarizes the primary effluent removal rates and their sources for each POC.

3.4.2 Final Effluent Removal Rates

There are three methods for calculating effluent removal rates, third decile removal efficiency (TDRE) method, the average daily removal efficiency (ADRE) method, and the mean removal efficiency (MRE) method. The following describes the removal methods and evaluates the applicability of the removal rates selections.

3.4.2.1 TDRE Removal Rates

The *Guidance Manual* describes the TDRE method for calculating effluent removal rates used in water quality AHL equations as one that provides a more comprehensive view of the removal rates, because it takes into consideration the frequency distribution of the data. It also allows for explicit incorporation of daily removal efficiency and is generally more conservative with respect to pass-through AHL calculations.

The effluent removal rate is the percentage of influent POC loading that is removed from the wastewater through all of the Plant processes. The effluent concentration value used to calculate the final effluent removal efficiency is the POC concentration value taken at the NPDES final effluent sample point

[7] *In-Plant Copper Reduction and Treatment Processes Optimization Program at the San Jose/Santa Clara Water Pollution Control Plant*, Environmental Services Department, City of San Jose, December 1998, pg. 2-8

The TDRE is calculated as follows:

$$ERE_i = \frac{(Ii - Ei)}{Ei}$$

Where:

ERE_i = Effluent removal efficiency for each daily influent and effluent pair (%).
I_i = The ith individual influent concentration sample result (mg/L)
E_i = The ith individual effluent concentration sample result (mg/L)
N = The total number of paired influent and effluent sample results

After calculating removal efficiencies for each daily influent and effluent pair, the removal efficiency values are ranked from lowest to highest. Next, the TDRE value is determined based upon the number of samples (N) multiplied by 30%. The TDRE removal rate is the ERE_i at this 30% rank, as determined by using linear regression based on the sample rank and corresponding removal efficiencies. This calculated ranked value is the removal rate. Calculations and illustration of the ranking method for all the TDRE Removal Rates for each POC are presented in Appendix B.

3.4.2.2 Average Daily Efficiency Method

Similar to the TDRE method, the average daily effluent removal rate requires calculation of removal efficiencies based on paired influent and effluent data. However, this method calculates the removal rate by averaging the resulting removal efficiencies.

$$ADRERR = \frac{\sum_N^1 (I_i - E_i)/I_i}{N}$$

Where:

ADRERR = ADRE effluent removal rate
I_i = The ith individual influent concentration sample result (mg/L)
E_i = The ith individual effluent concentration sample result (mg/L)
N = The total number of paired influent and effluent sample results

Calculations of the ranking method for all the ADRE Removal Rates for each POC are presented in Appendix B.

3.4.2.3 Mean Efficiency Effluent Removal Rate

Some POCs did not have enough paired data to calculate a statistically robust final effluent removal rate based on individual removal efficiencies. This mean efficiency effluent removal rate method requires first averaging all influent sample results and all the effluent sample results before calculating the removal rate of these averaged values.

$$MRERR = \frac{\frac{\sum I_i}{N} - \frac{\sum E_i}{N}}{\frac{\sum I_i}{N}}$$

Where:

MRERR = MRE removal rate
I_i = ith individual influent concentration sample result (mg/L)
Ei = ith individual effluent concentration sample result (mg/L)
N = total number of paired influent and effluent sample results

Calculations of the ranking method for all the MRE Removal Rates for each POC are presented in Appendix B.

3.4.2.4 Comparison of Final Effluent Removal Rate Calculation Methodologies

"Table 7: Final Effluent Removal Efficiency Rates Using Various Methods" summarizes the January 2008 to June 2012 calculated effluent removal efficiency rates using the various methods. For most pollutants there is little variation between the removal rates as calculated using these methods. Only antimony, beryllium, and cyanide had appreciable differences. Cyanide has a negative removal rate due to the Plant producing a small amount of cyanide from chloramination disinfection process. The variability between the TDRE, the ADRE, and MRE indicate that there may be little correlation between the generation of cyanide from chloramination disinfection and the incoming cyanide.

Although continued comparison of removal rates, Table 7 suggests that the MRE may be a suitable alternative to the TDRE method for water quality criteria as well as for biosolids.

Table 7: Final Effluent Removal Efficiency Rates Using Various Methods

POC	TDRE Removal Rate	ADRE Removal Rate	MRE Removal Rate
Antimony	22%	31%	43%
Arsenic	42%	47%	40%
Beryllium	77%	52%	73%
Cadmium	91%	91%	93%
Chromium (Total)	89%	90%	90%
Copper	97%	98%	98%
Cyanide	-413%	-305%	-242%
Lead	91%	93%	93%
Mercury	99%	99%	99%
Molybdenum	42%	55%	30%
Nickel	41%	48%	44%
Selenium	72%	77%	77%
Silver	97%	98%	98%
Zinc	87%	88%	87%
Ammonia	98%	97%	97%
BOD	99%	99%	99%
TSS	99%	99.5%	99.5%
Phenols	96%	91%	96%

Table 8: Selected Removal Rates for POCs per Application

POC	Primary Effluent Removal Rate		Water Quality Criteria Removal Rate		Anaerobic Digestion /Biosolids-Based Removal Rates	
	PERR	Source	FERR	Source	FERR	Source
Antimony	NR	NA	22%	TDRE	43%	MRE
Arsenic	0%	Assumed	42%	TDRE	40%	MRE
Beryllium	NR	NA	NR	NA	73%	MRE
Cadmium	15%	*Guidance Manual*	91%	TDRE	93%	MRE
Chromium (Total)	27%	*Guidance Manual*	89%	TDRE	90%	MRE
Copper	43%	*Special Study*	97%	TDRE	98%	MRE
Cyanide	27%	*Guidance Manual*	-242%	MRE	83%	*Guidance Manual*
Lead	57%	*Guidance Manual*	91%	TDRE	93%	MRE
Mercury	10%	*Guidance Manual*	99%	TDRE	99%	MRE
Molybdenum	NR	NA	NR	NA	30%	MRE
Nickel	23%	*Special Study*	41%	TDRE	44%	MRE
Selenium	NR	NA	72%	TDRE	77%	MRE
Silver	NR	NA	97%	TDRE	98%	MRE
Zinc	27%	*Guidance Manual*	87%	TDRE	87%	MRE
Ammonia	0%	Assumed	98%	TDRE	97%	MRE
BOD	NR	NA	99%	TDRE	99%	MRE
TSS	NR	NA	99%	TDRE	99.5%	MRE
Phenols	NR	NA	96%	TDRE	NR	NA

NR = Removal Rate Not Required for AHL Calculations.
NA = not applicable.

3.4.3 Removal Rates Utilized Per AHL Application Summary

This local limits evaluation used the more conservative TDRE based final effluent removal rates for WQC AHL calculations and the MRE based final effluent rates for biosolids analysis. The activated sludge inhibition and nitrification inhibition criteria used primary effluent rates and the anaerobic digestion criteria used MRE removal rates. "Table 8: Selected Removal Rates for POCs per Application" summarizes the various removal rates used for each POC. The evaluation used the *Guidance Manual* literature final removal rate for cyanide for anaerobic digestion inhibition criteria, since the Plant's chloramination process produces cyanide, and the disinfection process generates no sludge.

3.5 Calculating AHL

The AHL is calculated from the POC concentration criteria with the corresponding removal rates and safety factors. An AHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks that should not cause a POTW to violate a particular treatment plant limit or environmental criterion. An AHL is calculated for each applicable criterion: pass through, biosolids contamination, air quality standards, and the various forms of interference (biological treatment inhibition, sludge digestion inhibition). The AHLs for each POC are calculated based on the various suitable environmental criteria, plant flow rates, and plant removal efficiency. After calculating a series of AHLs for each POC, the lowest AHL is chosen as the MAHL. " Table 9: Summary of the POC AHLs and MAHLs" presents the different AHLs and the MAHLs associated with WQC, inhibitions, biosolids contamination, and the various forms of interference.

3.5.1 WQC AHL

WQC AHLs were calculated for each POC. WQC were obtained from either the Plant's NPDES permit value, the CTR, or NTR. Beryllium and molybdenum have no WQC for discharge to the South San Francisco Bay, at this time.

$$\text{WQAHL} = \frac{8.34 \times C_{wqc} \times Q_{avg}}{(1 - \text{FERR})}$$

Where:

WQAHL	=	AHL based on WQC (ppd) for each POC
8.34	=	Unit conversion factor
C_{wqc}	=	Monthly average POC WQC (mg/L) or daily maximum, as applicable
Q_{avg}	=	Influent average annual flow (mgd)
FERR	=	Final effluent removal rate for each POC

For POC with limits contained in the NPDES Permit Orders limits, the evaluation used the Daily Maximum WQC to compute a Daily Maximum AHL if the average AHL was abased on NPDES Permit Orders Monthly Average limits. These values include Copper, Cyanide, Nickel, Cyanide, Ammonia, BOD, and TSS. These criteria and calculated Daily Maximum AHL are listed in "Table 10: Daily Maximum MAHL for Toxic Pollutants for comparison with 80% Screening. These Daily Maximum AHLs, after being multiplied by 80% are used in this evaluation as local limit recalculation threshold limits for comparing maximum effluent data for these POCs, as is consistent with the *Guidance Manual*.

3.5.2 Plant Inhibition

Pollutant levels in wastewater or biosolids may cause operational problems for biological treatment processes involving secondary and tertiary treatment. Disruption of a POTW's biological processes is referred to as inhibition and can interfere with a POTW's ability to remove BOD and other pollutants. A POTW should assess any past or present operational problems related to inhibition through the local limits review process.

3.5.2.1 Plant Inhibition Criteria

The *Guidance Manual* states POTWs may not need to calculate AHLs to protect against inhibition if current loadings are acceptable to the treatment work's biological processes. However, a POTW may still choose to calculate AHLs based on biological process inhibition criteria to prevent future loadings that may cause inhibition. The *Guidance Manual* provides literature-based inhibition criteria for activated sludge, nitrification, and anaerobic digestion. However, the Plant's treatment processes combine activated sludge and nitrification into one step in the BNR process. Since the combined system contains some of the same biomass, such as nitrifying bacteria, as traditional activated sludge treatment followed by nitrification processes—this evaluation used the lowest applicable *Guidance Manual* criteria given for either the activated sludge or nitrification process as the initial basis for selecting inhibition criteria. Since the Plant processes also include anaerobic digestion, these inhibition values were also included in the analysis.

This evaluation used the average of the nitrification inhibitor values listed in the Guidance Manual instead of the minimum value (Table Avg) of 0.265 mg/L for copper and 0.300 mg/L for zinc. The

University of Wisconsin-Madison reported BNR inhibition values for copper (0.1-0.5 mg/L), and zinc (3 mg/L). These inhibition values were used to confirm the appropriateness of the inhibition values.

3.5.2.2 Activated Sludge Inhibition AHL

The equation below was used to calculate the activated sludge inhibition AHL. These calculations used primary removal rates to better represent the pollutants entering the activated sludge process stage.

$$ASIAHL = \frac{8.34 \times C_{ASI} \times Q_{avg}}{(1 - PERR)}$$

Where:

ASIAHL = Activated sludge inhibition AHL (ppd)
8.34 = Conversion factor
C_{ASI} = Activated sludge inhibition Limit Concentration (mg/L)
Q_{avg} = Plant's average flow rate (mgd)
PERR = Primary effluent removal rate, based primarily on *Guidance Manual Appendix* tables

3.5.2.3 Nitrification Inhibition AHL

The equation below was used to calculate the nitrification inhibition AHL. Since the Plant performs nitrification in one stage in the BNR processes, the AHL calculations use primary removal rates for better representation.

$$NIAHL = \frac{8.34 \times C_{NI} \times Q_{avg}}{(1 - PERR)}$$

Where:

NIAHL = Nitrification inhibition AHL (ppd)
8.34 = Conversion factor
C_{NI} = Nitrification inhibition limit concentration (mg/L)
Q_{avg} = Plant's average flow rate (mgd)
PERR = Primary effluent removal rate, based primarily on *Guidance Manual Appendix* tables

3.5.2.4 Anaerobic Digester Inhibition AHL

The equations below were used for calculating anaerobic digester inhibition AHLs. The anaerobic digester AHL uses the biosolids-based effluent removal rates. The *Guidance Manual* provides an equation for conservative pollutants, such as metals. The conservative pollutants anaerobic digester inhibition AHL equation is:

$$ADIAHL = \frac{8.34 \times C_{ADI} \times SQ_{avg}}{(FERR)}$$

Where:

ADIAHL = Anaerobic digester inhibition AHL (ppd)
8.34 = Conversion factor
C_{ADI} = Anaerobic digester inhibition standard concentration (mg/L) for each POC
SQ_{avg} = Plant average sludge flow rate (1 mgd)
FERR = Final effluent removal rate for each POC, based on MRE Removal Rates

Table 9: Summary of the POC AHLs and MAHLs

POC	WQC (µg/L)	WQC AHL (ppd)	ASI Criteria (µg/L)	ASI AHL (ppd)	NI Criteria (µg/L)	NI AHL (ppd)	ADI Criteria (µg/L)	ADI AHL (ppd)	BBI Criteria (mg/kg)	BBI AHL (ppd)	MAHL (ppd)
Antimony	4,300	5,015	-	-	-	-	-	-	680	580	580
Arsenic	36	57	100	92	1,500	1,400	1600	28	30	17	27
Beryllium	-	-	-	-	-	-		-	101	66	66
Cadmium	7	76	1000	1,100	5,200	5,600	20000	180	39	11	11
Chromium (Total)	200	1,650	1,000	1,300	250	315	110,000	1,000	3,400	1,000	320
Copper	12	400	1,000	1,200	265	430	40,000	340	1,500	410	340
Cyanide	5.3	1.4	100	130	340	430	1,000	10	-	-	1.4
Lead	135	1,400	1,000	2,100	500	1,100	340,000	3,000	300	85	85
Mercury	0.025	1.7	100	102	-	-	-	-	17	4.6	1.7
Molybdenum	-	-	-	-	-	-	-	-	4,730	4,200	4,200
Nickel	25	38	1000	1,200	250	299	10,000	170	210	116	38
Selenium	5	16	-	-	-	-	-	-	100	35	16
Silver	2.2	78	-	-	-	-	13,000	110	680	180	78
Zinc	170	1,200	300	380	300	770	400,000	3,800	2,800	840	380
Ammonia	3,000	120,00	480,000	440,000	-	-	1,500,000	50,000	-	-	50,000
BOD	10,000	860,000	-	-	-	-	-	-	-	-	860,000
TSS	10,000	1,550,000	-	-	-	-	-	-	-	-	1,550,000
Phenols	21,000	450,000	-	-	-	-	-	-	-	-	450.000

Table 10: Daily Maximum MAHL for Toxic Pollutants for comparison with 80% Screening

POC	Daily Max Criteria	Daily Max MAHL	MAHL Source
Antimony	677 mg/kg	580 ppd	Biosolids Inhibition
Arsenic	30 mg/kg	17 ppd	Biosolids Inhibition
Beryllium	101 mg/kg	66 ppd	Biosolids Inhibition
Cadmium	39 mg/kg	11 ppd	Biosolids Inhibition
Chromium (Total)	250 mg/L	320 ppd	Nitrification Inhibition
Copper	40,000 µg/L	430 ppd	Anaerobic Digestion Inhibition
Cyanide	14 µg/L	2.5 ppd	Permit DM
Lead	300 mg/kg	85 ppd	CTR – RPA
Mercury	0.027 µg/L	1.8 ppd	Permit DM
Molybdenum	4,700 µg/L	4,200 ppd	Biosolids Inhibition
Nickel	34 µg/L	52 ppd	Permit DM
Silver	2.2 µg/L	78 ppd	CTR- RPA
Zinc	300 µg/L	380 ppd	Activated Sludge Inhibition
Ammonia – N	1,500,000 µg/L	50,000 ppd	Anaerobic Digestion Inhibition
CBOD	20,000 µg/L	1,700,000 ppd	Permit DM
TSS	20,000 µg/L	3,100,000 ppd	Permit DM
Phenols	21,000 µg/L	450,000	NTR –RPA

The non-conservative pollutants anaerobic digester inhibition AHL equation is:

$$ADIAHL = \frac{L_{in} \times C_{ADI}}{(C_{dig})}$$

Where:

ADIAHL = Anaerobic digester inhibition AHL (ppd)
C_{ADI} = Anaerobic digester inhibition standard concentration (mg/L) for each POC
C_{dig} = Plant average digestor concentration, 900 mg/L, 2006 Digester Study for ammonia
L_{in} = Loading of influent, 30,000 lbs per day for ammonia

3.5.3 Biosolids-Based Inhibition AHL

In February 1993, EPA issued the Part 503 Biosolids regulations governing the use or disposal of sewage sludge. Pollutant levels were established for three disposal alternatives: land application to condition the soil or fertilize crops grown in the soil, surface disposal for final disposal, and incineration. The pollutant levels, however, are different for each alternative. In addition to the Federal standards, California may apply state hazardous criteria depending upon the ultimate biosolids application. Regardless of how a POTW disposes of biosolids, POTWs may wish to consider using land application “clean sludge” values from 40 CFR 503.13 in their calculation of AHL. Use of these criteria can improve a POTW’s beneficial use options for disposal of biosolids. The further achievement of these standards is consistent with the objectives of the National Pretreatment Program, which are listed at 40 CFR 403.2.

The Plant seeks to maximize the opportunities for beneficial use to the maximum extent practicable, which may include application to agricultural land, forest, public contact site, reclamation site, lawn or garden, and landfill. According the *Guidance Manual*, the biosolids criteria to be used for these applications are:

- "Clean Sludge" Pollutant Concentration Limits contained in Table 1 (Ceiling Concentrations) in 40 CFR 503.13 (1995),
- "Clean Sludge" Pollutant Concentration Limits contained in Table 3 (Monthly Average Pollutant Concentrations) in 40 CFR 503.13 (1995),
- Surface disposal limits for 0 to 25 feet from the boundary of an active surface disposal site contained in Table 1 and 2 in 40 CFR 503.23 (1995),
- California Hazardous Waste Total Threshold Limit Concentration, contained in tables in Title 22, Division 4.5, Chapter 11, Article 3, §66261.24

All of the biosolids criteria were converted to dry weight for use in AHL calculations and to compare with dry weight sludge samples. The equation below was used to calculate the biosolids-based AHLs:

$$BBIAHL = \frac{0.0022 \times C_{BS} \times Q_{BS}}{FERR}$$

Where:

BBIAHL= Biosolids Based AHL based on biosolids criteria (ppd) for each POC
C_{BS} = Biosolids or sludge standard dry weight (mg/kg) for each POC 2012 using the average total percent solids from 2008-2012 of 74% solid and specific gravity of 1.32 kg/L – see Appendix D for biosolids specific gravity calculations
Q_{BS} = Biosolids disposal rate (dry metric tons per day) – 120 metric tons per day, per "Table 11: 2008-2012 Annual Biosolids Dry Weight Sent to Landfill for Coverage"
FERR = Final effluent removal rate for each POC, based on MRE Removal Rates
0.0022 = Conversion factor

3.5.4 OSHA Health and Safety AHL

None of the POCs evaluated have OSHA Health and Safety Criteria.

3.6 Selecting MAHLs

Protecting water quality, biosolids quality, and air quality requires selection of the lowest AHL value for each potential POC for use as the maximum allowable headworks loading. "Table 9: Summary of the POC AHLs and MAHLs" lists the AHLs that will serve as MAHLs for this evaluation.

Table 11: 2008-2012 Annual Biosolids Dry Weight Sent to Landfill for Coverage

Collection Year	Biosolids Annual Dry Weight (metric tons)
2008	31000
2009	29646
2010	31688
2011	64188
2012	62934
Average	43923

3.7 Identifying POCs Requiring New or Revised Local Limits

The *Guidance Manual* states that once a POTW has calculated MAHLs for all of its POCs, it can determine for which pollutants it will require local limits. In making this pollutant-by-pollutant evaluation, the POTW will also want to consider historical issues and the degree to which current influent loadings approach calculated MAHLs. For example, the concentration of some pollutants in the POTW influent may be far below the calculated MAHLs. These pollutants are unlikely to cause problems for the POTW, so the treatment works may conclude that local limits for them are unnecessary. EPA recommends that the POTW document such decisions and discuss them with its Approval Authority, as needed.

Identifying those POCs requiring new or revised local limits is performed by comparing the Plant's influent loading for each POC to its corresponding MAHL. If the influent loading comparison to the MAHL does not meet the screening criteria, then the local limit may need to be revised.

3.7.1 Comparing Threshold Limits to POCs

The *Guidance Manual* recommends that local limits are needed when the following thresholds are satisfied:

- Average influent loading of a toxic pollutant exceeds 60 percent of the MAHL, or
- Maximum daily influent loading of a toxic pollutant exceeds 80 percent of the MAHL any time in the 12-month period preceding the analysis, or
- Monthly average influent loading exceeds 80 percent of average design capacity for BOD, TSS, and ammonia during any one month in the 12-month period preceding the analysis.

The *Guidance Manual* offers the following guidance on this comparison between MAHLs and headworks loading where local limits have not been established:

- If the current POC headworks loading exceeds the MAHL, EPA recommends that the POTW establish a local limit for the pollutant to investigate the cause of elevated loading, increase its industrial users monitoring, identify any non-complying industries, and consider undertaking pollution prevention efforts.
- If the current POC headworks loading exceeds the threshold values for the first time (i.e., the loading was below the threshold value during the year before), EPA recommends that the POTW increase monitoring for the POC or establish a local limit for it.
- If the current POC headworks loading exceeds the threshold value for the second time, EPA recommends establishing a local limit and increasing POC monitoring.
- If the current headworks loading is below the threshold, EPA recommends that the POTW review the pollutant's loading as part of its preparation of next year's annual report.

Similarly, EPA recommends the following guidance for POCs with established local limits:

- If the current POC headworks loading exceeds the MAHL, EPA recommends revising the local limits (unless an investigation reveals that the elevated loading is due to an unusual, one-time event), investigating the cause of the high loading, identifying any industries in non-compliance, increasing monitoring of industrial users, and considering adopting pollution prevention efforts.
- If the current POC headworks loading has increased significantly from the previous year (e.g., from 55 percent to 75 percent of the MAHL), EPA recommends that the POTW investigate the cause of the increased loading, increase the monitoring for the POC, or revise the local limit.
- If the current headworks loading is below the threshold, EPA recommends that the POTW review the pollutant's loading as part of its preparation of next year's annual report."

"Table 12: Comparison of MAHLs to Local Limit Threshold Screening Results" presents a comparison of MAHLs, threshold screening values, and influent loading to determine whether there is a need to revise or implement new local limits for each POC. If the respective influent loading was above the corresponding screening value, then a new or revised local limit may be required. If the respective influent loading was below the corresponding screening value, then the existing local limit is considered protective.

"Table 13: MAHL Threshold Screening Results" summarizes the results of the threshold-screening analysis for all of the POCs. None of these screening values was exceeded, indicating that new or lowered local limits are not warranted at this time. Moreover, data for many of the POCs indicate there is ample headworks loading capacity for these contaminants, and their corresponding industrial local limits may be decidedly conservative.

Table 12: Comparison of MAHLs to Local Limit Threshold Screening Results

POC	Average MAHL ppd	60% Average MAHL Screening Value (A)	January 2008 -June 2012 Mean Influent Loading (B)	New or Revised Local Limit Required (B>A)	Daily Max MAHL ppd	80% Daily Max MAHL Screening Value (C)	January 2008 - June 2012 Maximum Influent Loading ppd (D)	New or Revised Local Limit Required (C>D)
Antimony	580	350	0.7	No	580	460	1.1	No
Arsenic	17	10	1.6	No	17	14	2.5	No
Beryllium	66	40	0.0	No	66	53	0.26	No
Cadmium	11	6.6	0.2	No	11	8.8	0.42	No
Chromium (Total)	320	190	4.6	No	315	250	8.6	No
Copper	340	200	120	No	340	270	210	No
Cyanide	1.4	0.84	0.68	No	2.5	2.0	1.6	No
Lead	85	51	4.4	No	85	68	13	No
Mercury	1.7	1.0	0.2	No	1.8	1.4	0.45	No
Molybdenum	4200	2500	7.0	No	4200	3400	12.2	No
Nickel	38	23	10.0	No	52	42	18.9	No
Selenium	16	10	1.9	No	16	13	3.3	No
Silver	78	47	0.8	No	78	63	1.8	No
Zinc	380	230	160	No	378	300	220	No
Ammonia	50,000	30,000	28,000	No	50,000	40,000	36,000	No
CBOD	860,000	520,000	330,000	No	1,700,000	1,400,000	460,000	No
TSS	1,600,000	930,000	260,000	No	3,100,000	2,500,000	420,000	No
Phenols	450,000	260,000	7.6	No	450,000	360,000	13	No

Table 13: MAHL Threshold Screening Results

MAHL Threshold Criteria Screening Results	POCs Screened	Actions Recommended
Pollutants below MAHL threshold criteria that do not have a local limit.	Ammonia, BOD, TSS, and Molybdenum,	Local Limit not necessary.
Pollutants below MAHL threshold criteria that have a local limit.	Antimony, arsenic beryllium, cadmium, copper, chromium, lead, nickel, mercury, selenium, silver, zinc, and phenol	No further analysis required at this time.
Pollutants above MAHL threshold criteria that do not a have local limit.	None	No further analysis required at this time.
Pollutants above MAHL threshold criteria that a have local limit.	None	No further analysis required at this time.

4.0 Additional Protections for Collection System

The *Guidance Manual* states that POTWs may need to develop local limits to address concerns about their collection systems and meet the requirements found at 40 CFR 403.5(b), which include protecting the health and safety of workers at the POTW. The guidance specifically describes the following collection system concerns:

- Fires and explosions,
- Corrosion,
- Flow obstructions,
- Temperature, and
- Toxic gases, vapors and fumes.

As part of the local limits evaluation process, the City also conducted a review of the sewer ordinance to ensure that these protections were already in place.

4.1 Fires and Explosions

The General Pretreatment Regulations prohibit discharge of pollutants that will create a fire or an explosion in the collection system or the treatment facility. To protect from fires and explosions, the City’s sewer use ordinances contain a prohibition on substances having a closed-cup flashpoint of less than 140^{o}F or 60^{o}C.

4.2 Corrosion

To protect the sewer system and treatment facility from corrosive discharges, the General Pretreatment Regulations prohibit discharges that will cause corrosive damage to the collection system and POTWs. The City’s sewer use ordinance prohibits discharges with a pH less than 6 or greater than 12.5, or having other corrosive properties capable of causing damage or hazard to the sanitary sewer system or any personnel operating or maintaining the sanitary sewer systems.

4.3 Flow Obstructions

The discharge of solid or viscous pollutants in amounts that will obstruct the flows to the treatment plant and result in interference is prohibited by the General Pretreatment Regulations. The greatest threat of obstruction at POTWs comes from polar fats, oils and greases of animal and vegetable origin. The City has an Oil & Grease local limit of 150 mg/L and sewer use ordinance language stating that no trash or other solid obstructions shall be discharged into the sanitary sewer system. However, the best prevention measures against grease blockage is proper sizing of grease removal devices and ensuring the maintenance of grease removal devices. For several years now City staff has reviewed food facility plans and specifications for the appropriate sizing of grease removal devices. In addition, the City has implemented an inspection program for its 3000+ restaurants and food facilities. This inspection program verifies the installation of grease removal devices, maintenance practices and provides best management practices to educate owners and managers regarding grease removal.

4.4 Temperature

The General Pretreatment Regulations prohibit discharges that will inhibit the biological activity in the POTW and result in interference. In no case can discharges increase the temperature of the headworks above 104^{o}F or 40°C unless the Approval Authority, upon request of the POTW, approves alternative limits. The City’s sewer use ordinance already prohibits the discharge of any liquid, solid, vapor, or gas discharges with a temperature of 150 ^{o}F or more or that causes the temperature of the Plant to exceed 104^{o}F.

4.5 Toxic Gases and Fumes

The General Pretreatment Regulations prohibit the discharge of pollutants that lead to the accumulation of toxic gases, vapors, or fumes in the POTW in sufficient quantity to cause acute worker health and safety problems. The City's sewer use ordinance already includes a prohibition against the discharge of substances, which results in the presence of toxic gases, vapors or fumes within the sanitary sewer system.

5.0 Recommendations

"Table 14: Local Limit Recommendation Summary" presents the recommended modifications to the City's industrial local limits as a consequence of this local limits evaluation.

Table 14: Local Limit Recommendation Summary

Constituent	Existing Local Limits (mg/l)	Modification
Antimony	5.0	No modification at this time
Arsenic	1.0	No modification at this time
Beryllium	0.75	No modification at this time
Cadmium	0.7	No modification at this time
Chromium, Total	1.0	No modification at this time
Copper	Standard Dischargers – 2.3 Low Flow Dischargers – 2.7	No modification at this time
Cyanide	0.5	No modification at this time
Lead	0.4	No modification at this time
Mercury	0.010	No modification at this time
Molybdenum	None	No addition at this time
Nickel	Standard Dischargers – 0.5 Low Flow Dischargers – 2.6	No modification at this time
Selenium	1.0	No modification at this time
Silver	0.7	No modification at this time
Zinc	2.6	No modification at this time.
Total Phenol	30	No modification at this time.

6.0 Approval Process for Local Limits Review

Section 101(e) of the CWA establishes public participation as one of the goals in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by EPA or any State. The General Pretreatment Regulations encourage public participation by requiring public notices or hearings for program approval, removal credits, program modifications, local limits development and modifications, and IUs in significant non-compliance.

POTW pretreatment program approval requests require the Approval Authority (State or EPA) to publish a notice (including a notice for a public hearing) in a newspaper of general circulation within the jurisdiction served by the POTW. All comments regarding the request as well as any request for a public hearing must be filed with the Approval Authority within the specified comment period, which generally lasts 30 days. The Approval Authority is required to account for all comments received when deciding to approve or deny the submission. The decision is then provided to the POTW and other interested parties, and published in the newspaper. All comments received are made available to the public for inspection and copying.

Once a local pretreatment program is approved, the POTW must implement that program as approved. Before there is a significant change in the operation of a POTW pretreatment program, a program modification must be initiated. For a substantial program modification, such as the development of new or less stringent local limits, the POTW is required to notify the Approval Authority of the desire to modify its program and the basis for the change. Approval Authorities (or POTWs) also are required to issue public notice of the request for a modification, but are not required to issue public notice of the decision if no comments are received and the request is approved without changes. These changes become effective upon approval by the Approval Authority.

Federal regulations also require POTWs to notify affected persons and groups and give them an opportunity to respond before final promulgation of a local limit [40 CFR 403.5(c)(3)]. While the regulations do not specify the exact public notice process that a POTW should follow, EPA recommends that the POTW conduct public participation in the local limits process as openly as possible. This process would include notifying affected users and other parties that the POTW knows are interested that the POTW is beginning a detailed reevaluation of its local limits. When new limits are drafted, EPA recommends notifying the IUs and other interested parties, individually, of the proposed limits and announce a public comment period in the local newspaper.

- **Final Local Limits Evaluation Report -** Since there were no changes proposed for the local limits, after approval by the Water Board and EPA or after 90 days from submittal, the final report will be submitted to the City Council and the local tributary agencies for final approval.

Appendices

Appendix A: IU Inventory

Appendix B: San Jose/Santa Clara Water Pollution Control Plant Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for POC

Appendix C: San Jose/Santa Clara Water Pollution Control Plant Influent and Effluent Data for Screening Other Pollutants

Appendix D: Plant Biosolids Specific Gravity Calculations

Appendix A: IU Inventory

IU Inventory Report

Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
1	**A & E Anodizing**	SJ-314B	Y	Y	1571	2780	3471	HMR, PHA, CR	02/01/2018
2	**A Tool Shed**	WV-033B	N	N	264	609	7359	OWS, CLR	05/15/2014
3	**A.J. Auto Detailing, Inc.**	SJ-176B	N	N	3145	2457	7542	CLR	08/01/2017
4	**Abbott Hematology**	SC-194B	N	N	5975	24370	3826	AWN	05/27/2014
5	**Accu-Burr Metal Finishing, Inc.**	SJ-562Z	Y	Y	0	0	3365	CLR	03/27/2018
6	**Advanced Component Labs**	SC-360B	Y	Y	357	1452	3672	IE, AWN	10/31/2014
7	**Advanced Electropolishing Technology**	MI-120B	Y	Y	450	2200	3471	FP, PHA, BT	05/20/2016
8	**Advanced Metal Finishers, LLC**	SJ-606B	Y	Y	899	2100	3471	PHA, CLR	04/30/2014
9	**Advanced Surface Finishing Inc.**	SJ-514B	Y	Y	1900	2195	3672	HMR, PHM, IE, AWN, FP	09/15/2014
10	**Agilent Technologies, Inc.(Stevens Creek)**	SC-321B	Y	Y	21846	43444	3827	AWN	12/15/2015
11	**Ahead Magnetics dba AheadTek**	SJ-500B	Y	Y	776	1870	3679	NP	05/15/2018
12	**AIET**	SJ-623B	N	N	700	900	8731	AWN	04/30/2015
13	**Air Flight Services**	SC-159B	N	N	51	120	7384	MR	05/15/2018
14	**Airtronics Metal Products, Inc.**	SJ-608B	Y	Y	600	2560	3499	AWN	01/31/2015
15	**AKT America, Inc. (Applied Komatsu Tech)**	SC-258A	N	N	12700	22970	3559	AWN	03/15/2014
16	**Allergan, Inc.**	WV-044B	Y	Y	200	400	2834	BT	11/01/2013
17	**Alsco**	SJ-546B	N	Y	55785	65427	7218	MF, CEN	05/28/2017
18	**Altaflex, Inc.**	SC-316B	Y	Y	419	427	3672	HMR, CLR, WH, AWN, FP	08/18/2018
19	**Alzeta Corporation**	SC-151B	N	N	2184	5060	3433	BT, PHA	08/18/2017
20	**Amalar, Inc.**	SC-134B	N	N	500	1705	3479	BT, AWN	06/01/2014
21	**Amex Plating, Inc.**	SC-182B	Y	Y	970	3700	3471	CR, BT, HMR	03/22/2017
22	**Amtech Microelectronics, Inc**	SJ-530B	N	N	21	150	3679	PHA, IE, FLT	01/03/2016

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
23	**APCT, Inc.**	SC-434A	Y	Y	84945	98360	3672	HMR, AWN, BT	12/11/2016
24	**Applied Anodize, Inc.**	SJ-025B	Y	Y	976	2600	3471	IE, PHM, WH, AWN, EVP	10/03/2017
25	**Applied Materials, Bldgs. 2 & 3**	SC-092A	Y	Y	52243	77833	3559	AWN, CND	07/22/2017
26	**Arnold's Metal Finishing**	SC-369B	Y	Y	1620	5589	3471	FP, MHP, CLR, PHA	02/05/2018
27	**Averatek Corp.**	SC-406B	Y	Y	2000	3000	3471	FLT, AWN, IE, BT	03/31/2014
28	**Avogy, Inc.**	SJ-641B	N	N	3735	4090	3674	AWN	02/05/2017
29	**Babbitt Bearing Company, Inc.**	SJ-555Z	Y	Y	0	0	5084	WH	02/10/2018
30	**BAE Systems Imaging Solutions**	MI-134B	Y	Y	2300	5000	3674	AWN	06/16/2018
31	**BAE Systems Land & Armaments L.P.**	SC-367B	N	N	259	1978	3795	CLR, OWS	08/24/2015
32	**BD Biosciences**	SJ-128B	N	N	7784	15387	2835	PHA	09/20/2018
33	**Beam On Technology**	SC-355B	Y	Y	18	22	7336	ER	08/10/2014
34	**Bi-CMOS Foundry**	SC-349B	Y	Y	5700	6200	3674	AWN	11/01/2013
35	**BridgeWave Communications, Inc.**	SC-425B	Y	Y	1	40	3663	WH, AWN	05/19/2016
36	**California Auto Tinting and Polishing**	WV-059Z	Y	Y	0	0	3471	NP	06/26/2018
37	**California Paperboard Corp.**	SC-005C	Y	Y	269311	409710	2631	FLT, CLR	10/03/2017
38	**California's Great America**	SC-409A	N	N	164052	383765	7996	NP	06/29/2016
39	**Calpine Corp. dba Los Esteros Critical Energy**	SJ-488A	Y	Y	192736	379116	4911	OWS, PHA	12/01/2017
40	**CBR Circuits**	MI-013B	Y	Y	963	3000	3672	HMR, FlowMeter, ER, PHM	04/15/2018
41	**CEMEX (SJ-542B)**	SJ-542B	N	N	2407	5000	3273	NP	03/30/2017
42	**CEMEX Construction Materials Pacific, LLC**	SC-417B	N	N	7057	20000	3273	PHA	01/18/2015
43	**Cirexx International, Inc**	SC-428B	Y	Y	36380	44624	3672	HMR, AWN	10/01/2016
44	**Clean Harbors San Jose, LLC**	SJ-487A	Y	Y	15718	35544	4213	MHP, WH, BT	11/17/2016
45	**Coast Counties Truck & Equipment Co.**	SJ-484B	N	N	4.0	10.0	7699	CLR	08/15/2017
46	**Coast Engraving, Inc.**	SJ-612B	Y	Y	14	68	3479	AWN, FP, MHP	03/28/2015

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
47	**Coatek**	SC-026B	Y	Y	1600	3000	3672	MHP, IE	04/15/2014
48	**Cobham Sensor Systems Inc., Microwave Electronics Business Unit**	SJ-591B	Y	Y	1844	2397	3679	AWN, WH, IE	12/21/2013
49	**Coca Cola Bottling Company of California**	SJ-609B	N	N	131	240	4231	OWS	10/31/2014
50	**Coherent, Inc.**	SC-173B	Y	Y	16369		3674	FlowMeter, PHM, AWN	12/11/2017
51	**Compugraphics USA, Inc.**	WV-052B	Y	Y	1678	2165	3679	AWN	10/15/2013
52	**Contract Transportation Services**	SJ-236B	N	N	20	25	4213	OWS	12/01/2013
53	**Cordova Printed Circuits**	MI-017B	Y	Y	2750	7000	3672	AWN, FP, MR, MF, MHP	06/15/2018
54	**County of Santa Clara**	SJ-620B	N	N	1200	1500	7538	OWS	03/14/2015
55	**Crain Cutter Co. Inc.**	MI-070C	Y	Y	300	1600	3423	ST, FLT, AWN	07/22/2018
56	**Crystal Solar Inc.**	SC-401B	N	N	9744	10718	3674	AWN, WH	07/14/2018
57	**Crystallume Corporation**	SC-312B	Y	Y	400	500	3545	WH, AWN	12/30/2014
58	**CSL Operating, LLC**	SC-427B	Y	Y	5159	5905	3471	MHP, WH, IE, BT, SF, FP, PHA	11/20/2016
59	**Diana Fruit Company**	SC-002C	N	Y	63475	125998	2033	FLT, AWN	10/03/2017
60	**Dielectric Solutions, Inc.**	SJ-563B	N	N	15821	31225	3674	AWN	04/30/2018
61	**Disco Hi-Tec America, Inc.**	SC-331B	N	N	5530	22729	3559	CLR, FlowMeter	09/19/2017
62	**DS Waters of America**	MI-123A	N	N	18000	21000	5149	AWN	02/14/2018
63	**Du All Anodizing Company**	SJ-010B	Y	Y	850	1200	3471	MHP, AWN	10/03/2017
64	**DVR Power Plant, dba Silicon Valley Power**	SC-354B	Y	Y	67000	237000	4911	OWS	09/09/2014
65	**E-Fab, Inc.**	SC-096B	Y	Y	2387	3483	3479	PHA, BT, HMR	06/01/2016
66	**Eagle Tech, Inc.**	SJ-520B	Y	Y	704	1456	3672	WH, AWN, HMR, FP, ER, BT	04/30/2018
67	**Eggo Company**	SJ-021C	N	N	7592	23076	2038	MF, FLT, PHA	10/04/2017
68	**Elcon Precision, LLC**	SJ-640B	Y	Y	827	2400	3471	EVP, BT, IE, FP	08/14/2016
69	**Electropolishing Shop**	SC-424Z	Y	Y	0	0	3471	WH	06/01/2016

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
70	**Elmwood Correctional Facility**	MI-089B	N	N	214198	244335	9223		09/02/2015
71	**ENS Technology LLC**	SC-252A	Y	Y	6504	25175	3471	HMR, BT, CR, CND, PHA	07/05/2018
72	**EPZ, Inc.**	SC-328B	Y	Y	5192	8000	3471	PHA, BT, MHP, CLR, FP	09/02/2016
73	**Etched Media Corporation**	WV-068B	Y	Y	28		3479	MHP, AWN	10/23/2014
74	**Evenstar, Inc.**	SC-034B	Y	Y	1620	5589	3672	MHP, AWN, PHM	09/01/2017
75	**Fed Ex Freight Systems, Inc.**	SC-157B	N	N	339	850	4231	OWS	03/01/2018
76	**First Solar, Inc.**	SC-420B	N	N	2544	2555	3674	AWN	10/11/2015
77	**FJM Truck Repair, Inc.**	SJ-400B	N	N	290	915	7539	CLR	05/15/2014
78	**Flex Interconnect Technologies**	MI-116B	Y	Y	2276	3788	3672	AWN, HMR	04/28/2018
79	**Flextronics Americas, LLC (Bldg 2 & 3)**	MI-129B	N	N	270	604	3679	CF, FlowMeter, PHM, IE	09/30/2017
80	**Foothill/De Anza Community College Distr**	CU-033B	N	N	18	22	7542	CLR	12/15/2013
81	**Four-D Metal Finishing, Inc.**	SC-375B	Y	Y	545	2845	3471	AWN, CLR	01/26/2017
82	**Fujifilm Dimatix, Inc.**	SC-422B	Y	Y	41629	44781	3577	RCIR, FLT, WH, PHA, CEN, CND	01/02/2016
83	**GE Mobile Water, Inc.**	SJ-393A	N	Y	129700	245000	4941	AWN	05/01/2014
84	**Glide/Write, Division of Marburg Tech**	MI-073B	N	N	1920	3530	3679		08/16/2014
85	**Gold Plating, Inc.**	SC-432Z	Y	Y	0	0	3672	WH, IE, EVP, FLT	01/26/2017
86	**Good Samaritan Hospital**	SJ-442B	N	N	97273	145188	8062	NP, WH	08/01/2015
87	**Gordon Biersch Brewing Company, Inc.**	SJ-352C	N	Y	22639	53648	2082	CLR, FlowMeter, PHM, AWN	02/13/2014
88	**Granite Construction Company**	SC-363B	N	N	412	500	1629	I	04/29/2015
89	**Graphic Packaging International, Inc.**	SC-412A	Y	Y	384900	711200	2631	FLT	11/29/2013
90	**GreenWaste Recovery, Inc.**	SJ-375B	N	N	70	125	5093	PHA, BD	12/18/2016
91	**Grinding, Dicing Services, Inc. dba GDSI**	SJ-599B	Y	Y	4125	4875	3674	PHA	01/20/2014
92	**Guadalupe Rubbish Disposal Company, Inc.**	SJ-300B	N	N	10482	83000	4953	OWS	07/19/2017

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Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
93	**Hanwha Solar America, LLC**	SC-431B	N	N	7388	11082	8731	AWN	05/28/2018
94	**Haro's Anodizing Specialists**	SC-222B	Y	Y	150	1300	3471	PHA, BT, MHP, CR, FP	12/03/2016
95	**Haro's Metal Finishing, Inc.**	SJ-655Z	Y	Y	0	0	3471	MHP, EVP, FP, CR, BT	04/17/2018
96	**Headway Technologies, Inc.**	MI-057A	Y	Y	114000	138000	3572	PHA, AWN, IE	08/01/2018
97	**Headway Technologies, Inc. STT Bldg 5**	MI-118B	Y	Y	17876	46000	3674	AWN, IE	02/23/2016
98	**HGST, Inc.**	SJ-495A	Y	Y	209500	380900	3572	HMR	04/15/2018
99	**HGST, Inc.**	SJ-533B	N	N	2000	5270	8731		06/30/2016
100	**Highland Metals, Inc.**	SJ-628B	Y	Y	165	196	3843	PHA, ENC	09/30/2015
101	**Hill Bros. Chemical Co.**	SJ-059B	N	N	9097	21827	2819	CLR	12/15/2017
102	**Honeywell International**	SC-225B	N	N	150	350	2819	WH, PHA	02/20/2017
103	**Hosmer-Dorrance**	WV-038B	N	N	360	1910	3842	CLR	01/05/2017
104	**Hunter Technology Corporation**	SC-338B	Y	Y	7045	15045	3672	HMR, AWN, FP	11/01/2016
105	**Hunter Technology Corporation**	SC-444B	Y	Y	7283	24562	3672	FP, CLR, AWN, HMR	06/30/2018
106	**INTA Technologies**	SC-307B	Y	Y	123.5	407	8731	PHA, IE	11/10/2014
107	**Integrated Device Technology, Inc**	SJ-519B	N	N	79	480	8734	AWN	07/28/2015
108	**Integrated Photovoltaics, Inc**	SJ-645B	N	N	2675	3400	3999	AWN, WH	05/14/2017
109	**Intel Corporation, SC1/SC2**	SC-440A	Y	Y	38800	48500	3674	PHA	10/03/2017
110	**Intermolecular, Inc.**	SJ-626B	N	N	400	1600	3674	AWN	08/31/2015
111	**International Disposal Corporation, Inc**	SJ-437A	N	Y	31500	132000	4953	EVP	03/02/2016
112	**Intevac**	SC-426B	N	N	200	280	3674	AWN	12/11/2016
113	**Intevac, Inc.**	SC-259B	Y	Y	7513	7728	3679	MHP, PHM, BT	06/17/2017
114	**Italix Company, Inc.**	SC-410Z	Y	Y	9318	10440	3471	EVP, IE, WH	05/21/2014
115	**J & B Enterprises**	SC-388Z	Y	Y	0	0	3341	WH, EVP	06/18/2018
116	**J. Lohr Winery**	SJ-024C	N	N	15706	38046	2084	AWN	10/04/2017

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
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CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
117	**JDS Uniphase (Rose)**	SJ-493B	Y	Y	20483	41851	3674	PHM, FlowMeter, HMR, AWN	01/30/2018
118	**JDS Uniphase Corporation**	SJ-606B	N	N	5865	8200	3699	AWN	10/14/2014
119	**Jennings Technology Corporation**	SJ-634B	Y	Y	7532	15050	3699	CND, IE, CR, HMR	08/31/2017
120	**Jennings Technology Corporation**	SJ-216B	Y	Y	9348	23704	3699	IE, CR, HMR, CND	10/10/2013
121	**Johnson Matthey, Inc**	SJ-574Z	Y	Y	210	680	3842	NP, WH	04/13/2014
122	**Kearney Pattern Works and Foundry**	SJ-557Z	Y	Y	0	0	3365	EVP, WH	02/13/2018
123	**Kelytech Corp.**	MI-117B	N	N	500	600	3679	FLT	03/22/2015
124	**Kinder Morgan Energy Partners, L.P. dba SFPP, L.P.**	SJ-379B	N	N	658	24992	5171	FLT, CF, PHA, OWS	05/25/2018
125	**Kion Technology, Inc.**	SJ-191B	Y	Y	300	380	3471	CND, PHA, BT, FLT, WH, HMR, EVP, CR	05/11/2018
126	**KLA-Tencor Corporation**	MI-137B	Y	Y	349	853	3825	AWN	05/10/2017
127	**KMIC Technology, Inc.**	SJ-561B	Y	Y	10	105	3812	AWN	04/30/2018
128	**Kovio, Inc.**	SJ-646B	Y	Y	4920	8260	3674	WH, AWN	03/13/2017
129	**Lam Research Corporation (3950 N. 1st)**	SJ-652B	N	N	5320	7000	3559	AWN	02/14/2018
130	**Lam Research Corporation (4000 N. 1st)**	SJ-651B	N	N	7750	27111	8711	AWN	01/03/2018
131	**Lenthor Engineering, Inc.**	MI-018B	Y	Y	15301	24721	3672	BT, HMR, CLR, PHA, FP	07/01/2018
132	**Lenthor Engineering, Inc.**	MI-132B	Y	Y	9124	21775	3672	FLT, HMR	04/13/2015
133	**Linear Technology Corp.**	MI-006A	N	N	400	520	3674	AWN	06/01/2018
134	**Linear Technology Corporation**	MI-088B	Y	Y	126490	170762	3674		08/20/2015
135	**List Biological Laboratories, Inc**	WV-064B	Y	Y	3878	7726	2836	IE, AWN	10/31/2013
136	**LSA Cleanpart**	SC-411B	Y	Y	2400	3500	3472	BT, AWN, FP	06/30/2017
137	**M-Pulse Microwave, Inc.**	SJ-035B	Y	Y	515	830	3679	PHA, WH	12/21/2014
138	**Magic Spray**	SC-430B	Y	Y	20	120	3479	AWN, BT	03/25/2017
139	**Main Jail Facility - County of Santa Clara**	SJ-444B	N	N	191470	229791	5812	NP	09/02/2015

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
140	**Mannington Mills dba Burke Industries**	SJ-594B	Y	Y	1106	3042	3069	OWS	02/01/2014
141	**Mantrex, Inc. dba Wit Sales & Refining**	SJ-559Z	Y	Y	0	0	3341	NP, WH	03/06/2018
142	**Manuel's Auto Detail**	SC-404B	N	N	690	800	7542	FLT, OWS, CLR	12/15/2013
143	**Maxim Integrated Products, Inc.**	SJ-369B	Y	Y	159452	216410	3674	AWN	12/21/2017
144	**Medimmune**	SC-340B	N	N	7000	11500	2836	AWN	11/01/2017
145	**Metal Finishing Solutions, Inc.**	SC-438B	Y	Y	5090	7500	3471	EVP, AWN, IE, FlowMeter, PHM	04/12/2017
146	**Metcalf Energy Center LLC**	SJ-515B	Y	Y	340507	639538	4911	NP	01/17/2015
147	**Miasole**	SC-391B	Y	Y	4100	5000	3471	WH	07/18/2015
148	**Micrel, Inc.**	SJ-258A	Y	Y	167761	199900	3674	AWN	03/07/2014
149	**Micro-Chem, Inc.**	SC-218B	Y	Y	331	1385	3672	AWN, IE, MHP, BT	09/26/2016
150	**Microsemi, Inc.**	SC-380B	Y	Y	4097	6821	3674	AWN	05/31/2018
151	**Mission Valley Ford Truck Sales, Inc.**	SJ-178B	N	N	180	560	5511	OWS	08/02/2017
152	**Mohawk Packing, Div. of John Morrell**	SJ-373C	N	Y	29630	46300	2013	GI	01/16/2018
153	**Momentum Technologies Corp. dba Momentum Metal Finishing**	SC-381B	Y	Y	1171	3040	3471	CLR, MHP, PHA, BT, FP	10/31/2017
154	**Multitest**	SC-301B	Y	Y	50433	79141	3672	MHP, AWN, CLR, FP, BT	08/01/2014
155	**Nanosolar**	SJ-579B	Y	Y	12125	16000	3674	IE, PHA, CF	03/14/2017
156	**NeoPhotonics Corporation**	SJ-503B	N	N	12812	22970	3674	AWN, WH, FLT	06/30/2018
157	**Newport Corporation**	SC-416B	Y	Y	1100	1600	3699	AWN	01/21/2015
158	**Novellus Systems, Inc. (4000)**	SJ-621B	N	N	22174	39090	8711	AWN	01/14/2015
159	**Nu-Metal Finishing, Inc.**	SC-064B	Y	Y	7742	13318	3471	PHA, WH, IE	02/15/2018
160	**NuvoSun, Inc.**	MI-139B	N	N	330	11592	3674	AWN, FLT, IE	07/31/2018
161	**Ocular Labs**	SJ-600B	N	N	93	117	3851	PHA	02/28/2014
162	**OLS Energy-Agnews, Inc.**	SJ-388B	Y	Y	58360	74060	4911	AWN, OWS	03/15/2014
163	**Owens Corning Insulation Systems LLC**	SC-011A	N	N	1722	46575	3296	CLR, PS	10/04/2017

Key

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BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

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	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
164	**Pac Tech USA Packaging**	SC-343B	Y	Y	9980	12520	3471	CND, PHA, IE	04/30/2018
165	**Pacific Gas and Electric Company**	SJ-231T	N	N			1389	ST, FLT	08/30/2013
166	**Pacific Photo Lithography**	SC-393Z	Y	Y	0	0	3479	WH	06/18/2018
167	**Parlex Corporation**	SJ-459B	Y	Y	1046	2660	3672	BT, PHA, IE	04/01/2016
168	**Peninsula Corridor Joint Powers Board (Lenzen Yard)**	SJ-543B	N	N	10573	50000	4111	DAF, FP, PHA	03/23/2017
169	**Penitencia Water Treatment Plant**	SJ-523B	N	N	856	4103	4941	NP	07/29/2015
170	**Penske Truck Leasing Co, LP Lafayette**	SC-361B	N	N	1560	2676	7513	CLR	02/21/2015
171	**PerkinElmer, Inc.**	SC-264A	Y	Y	81190	149280	3674	AWN	08/30/2014
172	**Philips Lumileds Lighting Company, LLC**	SJ-528B	Y	Y	145500	427420	3674	AWN, HMR, BT	11/16/2015
173	**PK Selective Metal Plating, Inc.**	SC-013B	Y	Y	217	324	3471	HMR, AWN	12/15/2017
174	**Polishing Corp. of America**	SC-012C	N	N	6000	9000	3674	NP	09/01/2013
175	**Process Stainless Lab, Inc.**	SC-276B	Y	Y	2678	4600	3479	MHP, CR, AWN, FP	08/01/2017
176	**Prodigy Surface Tech, Inc.**	SC-344B	Y	Y	105	800	3471	IE, AWN, UV	01/26/2017
177	**Prudential Overall Supply**	MI-040B	N	Y	48663	61711	7218	FP, DAF, FLT, PHA	06/01/2018
178	**Pyramid Circuits, Inc.**	SC-429B	Y	Y	1115	1210	3672	HMR, WH, AWN, FP	10/23/2016
179	**Qualcomm MEMS Technologies**	SJ-522B	N	N	15275	20420	3674	AWN	03/22/2016
180	**Quality Plating, Inc.**	SJ-079B	Y	Y	800	4000	3471	AWN, HMR	04/15/2016
181	**QualTech Circuits, Inc.**	SC-345B	Y	Y	436	449	3672	IE, MR, PHA, MHP, FP	07/01/2018
182	**QuantumClean**	SJ-545B	Y	Y	998	1750	7699	FP, PHA	05/22/2017
183	**R. C. Refinishing**	SJ-567Z	Y	Y	0	0	3479	WH	05/01/2018
184	**Rayne of San Jose**	SJ-525B	N	N	18600	19600	7389	CLR	10/25/2015
185	**Reaction Technology**	SC-421B	N	N	16760	29100	3674	AWN	12/14/2015
186	**Reed & Graham, Inc.**	SJ-461B	Y	Y	240	480	2952	OWS	11/04/2014
187	**Reel Solar, Incorporated**	SJ-647B	Y	Y	1370	3000	3674	WH, IE, AWN, HMR	07/29/2017

Key

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CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

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	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
188	**Ritz Camera Centers #1343**	WV-057B	N	N	5	10	7384	MR	06/15/2017
189	**RockTenn CP, LLC**	MI-135B	N	N	4100	5500	2653	PHA, FP	10/16/2016
190	**Ryder Truck Rental**	SJ-008C	N	N	15	80	7513	CLR	03/02/2017
191	**S.J. Valley Plating, Inc.**	SC-017B	Y	Y	3800	5775	3471	FP, AWN, CND, CR, HMR	05/01/2015
192	**SAE Materials**	SC-358B	N	N	260	320	3672	IE	09/30/2014
193	**San Jose Auto Steam Cleaning**	SJ-055B	N	N	2350	2800	7549	MHP, BT, FP, OWS	10/03/2017
194	**San Jose Die Casting Corp.**	SJ-554Z	Y	Y	0	0	3363		02/14/2018
195	**San Jose Mercury News**	SJ-017B	N	N	70	910	2711		10/03/2017
196	**San Jose Municipal Water System**	SJ-463B	N	N			4941	NP	09/30/2017
197	**San Jose State University Cogen Plant**	SJ-448B	N	Y	32225.67	54493	4911	NP	02/15/2018
198	**San Jose Water Co WV-902B Saratoga Filtration Plant**	WV-902B	N	Y	12400	240000	4941	PHA, ST	08/10/2017
199	**San Jose Water Company CU-901C**	CU-901C	N	N	24600	50000	4941	ST	05/19/2018
200	**San Jose Water Company SJ-901C**	SJ-901C	N	N	24600	50000	4941	ST	05/19/2018
201	**San Jose Water Company WV-901C**	WV-901C	N	N	24600	50000	4941	ST	05/19/2018
202	**Sanmina Corp Plant I**	SJ-022A	Y	Y	86370	123451	3672	HMR	07/15/2018
203	**Sanmina Corp Plant II**	SJ-043A	Y	Y	172220	243480	3672	HMR, FP, ER, BT, IE	03/16/2014
204	**Santa Clara County Roads & Airports, EY**	SJ-329B	N	N	115	820	7542	CLR, FLT	12/15/2013
205	**Santa Clara Plating Co.**	SC-029B	Y	Y	6605	9365	3471	IE, HMR, FP	07/15/2017
206	**Santa Clara Valley Health and Hospital System**	WV-055B	N	N	259061	376397	8062	NP	08/01/2015
207	**Santa Clara Valley Transportation Authority - Cerone Division**	SJ-139B	N	N	7330	16700	5093	FlowMeter, HMR, FP, OWS, PHM, BT, CLR, FLT	06/30/2017
208	**Santa Clara Valley Transportation Authority Chaboya Division**	SJ-138B	N	N	6637	30835	4111	BT, MHP, CLR, FE, PHA, FlowMeter, FP, PHM	06/30/2017
209	**Siemens Water Technologies LLC**	MI-065C	N	Y	119823	132673	7389	AWN	07/01/2018

Key

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CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
210	**Silicon Genesis Corporation**	SJ-648B	N	N	968	3953	3674	AWN	05/17/2017
211	**Silicon Microstructures**	MI-108B	Y	Y	4962	38727	3674	AWN	07/01/2018
212	**Silicon Quest International, Inc.**	SJ-638B	N	N	10000	15000	3674	AWN	06/23/2016
213	**Silicon Valley Electroplating Corp.**	MI-055B	Y	Y	1778.5	2645.5	3471	BT, AWN, HMR, WH	01/23/2018
214	**Sims Metal Management**	SJ-220B	N	N	320	1000	5093	CLR	08/15/2013
215	**SIX SIGMA**	MI-106B	N	N	722	2210	3679	FLT, IE, AWN	04/14/2017
216	**SJJC FBO Services, LLC operated by ATLANTIC AVIATION Services**	SJ-604B	N	N			4581	OWS	07/05/2014
217	**Smythe European**	SJ-170B	N	N	6899	14076	5511	WH, OWS	01/01/2018
218	**Solar Junction Inc.**	SJ-624B	Y	Y	2250	2700	3674	FLT	04/27/2015
219	**Solexel Inc.**	MI-128B	Y	Y	65250	66000	3674	AWN	03/14/2014
220	**SoloPower, Inc.**	SJ-639B	Y	Y	647	6480	3674	IE, AWN	06/26/2016
221	**sp3 Diamond Technologies, Inc.**	SC-435B	N	N	81	120	3999	NP	02/19/2017
222	**Specialty Truck Parts Inc.**	SJ-339C	N	N	370	1600	4231	CLR	05/29/2014
223	**Spraytronics, Inc.**	SC-383B	Y	Y	50	70	3479	CLR	04/29/2017
224	**Stericycle Specialty Waste Solutions, Inc.**	SJ-544B	Y	Y	14	1000	4953	PHA, MR	07/31/2017
225	**Steve Sanford, Inc.**	SJ-631B	N	N	6.4	17	7221	MR	07/14/2015
226	**Stion Corporation**	SJ-605B	Y	Y	1778	2600	3679	PHA, IE	08/09/2014
227	**Streamline Circuits**	SC-350A	Y	Y	77048	109477	3672	AWN, HMR	12/15/2013
228	**Sun Surface Technology**	SJ-510B	Y	Y	1140	2000	3471	MHP, IE, PHA, CLR, CR, FP	05/17/2016
229	**SunPower Corporation**	SJ-636B	N	N	8200	11400	3674	IE, AWN	01/27/2018
230	**Superior Chrome**	SJ-263B	Y	Y	600	700	3471	WH, IE	06/21/2016
231	**Supertex, Inc.**	SJ-398B	Y	Y	29966	59400	3674	AWN, WH	04/01/2014
232	**SV Probe, Inc.**	SC-385Z	Y	Y	0	0	3825	WH	06/18/2018

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
233	**Swift Metal Finishing**	SC-035B	Y	Y	1019	1810	3471	HMR	05/15/2018
234	**T. Marzetti Co.- West**	MI-004C	N	Y	35000	79000	2035	OWS, FLT, WH, DAF	01/01/2018
235	**Teikoku Pharma USA**	SJ-513B	N	N	160	255	2834	AWN	11/06/2014
236	**Telewave, Inc**	SJ-471B	Y	Y	159	300	3471	AWN, BT	04/01/2017
237	**Teltec Corporation DBA: Gorilla Circuits**	SJ-449B	Y	Y	68857	89170	3672	AWN, IE, BT, HMR	08/21/2016
238	**Texas Instruments, Inc.**	SC-437B	N	N	41000	110000	3674	FLT, FlowMeter, AWN, PHM	04/22/2017
239	**THAT Corporation**	MI-078B	Y	Y	4194	7830	3674	AWN	03/01/2017
240	**Toppan Photomasks, Inc.**	SC-050B	Y	Y	8034	18071	2796	AWN	11/01/2016
241	**Town of Los Gatos, SCC**	WV-021B	N	N	260	1000	7538	OWS	09/01/2013
242	**Triad Tool & Engineering, Inc.**	SJ-560Z	Y	Y	0	0	3363	EVP	03/09/2018
243	**TSET, Inc.**	SC-411B	N	N	132	310	3599		09/13/2014
244	**TTM Technologies, Inc - Santa Clara Division**	SC-374A	Y	Y	62270	122000	3672	AWN, BT, HMR	10/26/2016
245	**U S Postal Service, VMF**	SJ-226B	N	N	200	590	4311	CLR, WH, OWS	01/01/2014
246	**Ultratech Stepper-Zanker**	SJ-292B	N	N	1425	2696	3559	WH, AWN	02/01/2017
247	**Uni-Flex Circuits, Inc.**	SJ-399B	Y	Y	146	350	3672	HMR, BT, AWN	05/01/2014
248	**United Parcel Service**	SJ-474B	N	N	1532	6352	4215	OWS, WH	06/01/2017
249	**United Rentals, Northwest, Inc (Monterey)**	SJ-535B	N	N	589	1070	7353	OWS	09/15/2016
250	**United Supertek, Inc.**	SJ-122B	Y	Y	400	800	3471	PHA, IE	08/01/2016
251	**Universal Semiconductor**	SJ-150B	Y	Y	9093	9195	3674	WH, AWN	10/03/2017
252	**Universal Semiconductor Technology, Inc**	SC-370B	Y	Y	8084	13733	3674	AWN	07/25/2016
253	**University Plating**	SJ-028B	Y	Y	5274	6430	3471	PHA, HMR, FP	10/03/2017
254	**Vector Fabrication**	MI-059B	Y	Y	1926	3350	3672		07/10/2014
255	**Viasystems Corporation**	SJ-625B	Y	Y			3672	AWN, HMR	06/11/2015
256	**Viasystems, Inc.**	MI-014A	Y	Y	94300	115240	3672	FP, BT, IE, MF, AWN, MHP	03/06/2018

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
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CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
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Non-Domestic Dischargers to the San Jose / Santa Clara Water Pollution Control Plant

	Organization Name	Permit Number	CIU Y/N	SIU Y/N	Avg Flow (GPD)	Peak Flow (GPD)	SIC (primary)	Pretreatment Technology	Permit Status
257	**Vishay/Siliconix**	SC-282A	Y	Y	226307	251076	3674	WH, AWN, IE, CF	04/30/2018
258	**Wafer Reclaim Service, LLC**	SJ-552B	N	Y	49194	58857	3674	IE, PHA	10/18/2017
259	**Walgreens #1179**	SJ-576B	N	N	3	5	5912	ER	10/14/2018
260	**Walgreens #2081**	SJ-526B	N	N	2.33	5	5912	MR	11/17/2015
261	**Walgreens #2169**	SJ-573B	N	N	3	5	5912	MR	10/14/2013
262	**Walgreens #2265**	SJ-571B	N	N	2	4	5912	MR, WH	07/29/2018
263	**Walgreens #2739**	SJ-598B	N	N	3	5	5912	MR	01/31/2014
264	**Walgreens #2740**	SC-396B	N	N	1	3	5912	MR	08/31/2018
265	**Walgreens #2786**	WV-060B	N	N	2	4	5912	MR	10/14/2018
266	**Walgreens #2957**	WV-063B	N	N	2	4	5912	MR	10/14/2018
267	**Walgreens #3378**	SJ-568B	N	N	2	4	5912	WH, MR	06/14/2018
268	**Walgreens #3445**	SJ-548B	N	N	3	5	5912	MR	03/14/2014
269	**Walgreens #3754**	SJ-582B	N	N	3	5	5912	MR	10/31/2013
270	**Walgreens #5454**	SJ-575B	N	N	3	5	5912	MR	09/19/2018
271	**Walgreens #6585**	WV-062B	N	N	2	4	5912	MR	10/14/2018
272	**Walgreens #7079**	SJ-590B	N	N	3	5	5912	MR	03/31/2014
273	**Walgreens #842**	SJ-589B	N	N	3	5	5912	MR	12/14/2013
274	**Walgreens #900**	SJ-578B	N	N	3	5	5912	MR	10/31/2013
275	**WD Media, Inc.**	SJ-551A	N	Y	70335	102600	3695	HMR, AWN, BT	09/04/2017
276	**Xenoport**	SC-339B	N	N	3014	5010	8731	WH, PHA	08/16/2017
277	**Xstrata Recycling, Inc.**	SJ-556Z	Y	Y	0	0	5093	WH, NP	02/14/2018
278	**Zanker Road Resource Management, Ltd.**	SJ-381B	N	N	1176	19500	4953	NP	07/14/2018
279	**Zazzle, Inc.**	SJ-547B	N	N	2854	5462	7336	MR	07/09/2017

Key

AWN	Acid waste neutralization	DAF	Dissolved air floatation	G	Grinder	MR	Metallic replacement	RCIR	Recirculation
BT	Batch treatment	ENC	Encapsulation	HMR	Heavy metals removal	NP	No Pretreatment	RO	Reverse osmosis
CF	Carbon filtration	ER	Electrolytic recovery (Silver recovery)	I	Interceptor	OWS	Oil/Water separator	RP	Reverse plating
CLR	Clarifier	EVP	Evaporation	IE	Ion exchange	PHA	pH adjustment	SF	Sand filter
CND	CN destruction	EWN	Electrowinning	MF	Membrane filtration	PS	Particulate screen	VE	Vacuum evaporator
CR	Chromium reduction	FLT	Filtration	MHP	Metal hydroxide precipitation	RBC	Rotating biological contractors	WH	Waste hauling
		FP	Filter Press						

Appendix B: San Jose/Santa Clara Water Pollution Control Plant Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for POC

Table B-1: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Antimony

Date	Antimony Influent µg/L)	Antimony Final Effluent (µg/L)	Antimony Percent Removal	Percent Removal in Order	Rank
1/1/08	0.56	0.39	17%	1%	1
1/3/08	0.71	0.47	24%	5%	2
1/8/08	0.52	0.47	5%	6%	3
1/15/08	0.67	0.42	25%	13%	4
1/22/08	0.57	0.56	1%	15%	5
1/29/08	1.15	0.39	76%	15%	6
2/4/08	*1.21	0.34		16%	7
3/25/08	0.77	0.42	35%	17%	8
4/3/08	1.02	0.46	56%	17%	9
5/5/08	0.8	0.44	36%	17%	10
6/3/08	1.05	0.49	56%	17%	11
7/2/08	1.07	0.45	62%	20%	12
8/5/08	0.74	0.39	35%	20%	13
9/3/08	0.78	0.45	33%	20%	14
10/7/08	0.93	0.54	39%	20%	15
11/4/08	*1.3	0.37		21%	16
12/3/08	0.74	0.42	32%	22%	17
1/6/09	0.92	0.39	53%	22%	18
2/4/09	*1.31	0.46		23%	19
3/3/09	0.66	0.41	25%	23%	20
4/7/09	0.9	0.43	47%	23%	21
5/4/09	0.66	0.33	33%	23%	22
6/1/09	0.92	0.43	49%	23%	23
7/8/09	0.78	0.58	20%	24%	24
7/11/09	0.62	0.45	17%	24%	25
7/12/09	0.63	0.38	25%	25%	26
7/13/09	0.72	0.38	34%	25%	27
7/14/09	0.68	0.45	23%	25%	28
8/5/09	0.71	0.44	27%	25%	29
8/23/09		0.5		27%	30
8/24/09		0.48		27%	31
8/25/09		0.47		29%	32
8/26/09		0.47		29%	33
8/27/09		0.49		30%	34
8/28/09		0.47		30%	35
8/29/09		0.49		32%	36
9/1/09	1.18	0.47	71%	33%	37
10/5/09	0.76	0.42	34%	33%	38
11/5/09	0.61	0.38	23%	33%	39
12/1/09		0.51		34%	40
12/2/09	0.69	0.4	29%	34%	41
12/3/09		0.37		35%	42
12/4/09		0.51		35%	43

Table B-1: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Antimony

Date	Antimony Influent µg/L)	Antimony Final Effluent (µg/L)	Antimony Percent Removal	Percent Removal in Order	Rank
12/5/09		0.42		36%	44
12/6/09		0.39		39%	45
12/7/09		0.36		39%	46
12/8/09		0.37		41%	47
12/9/09		0.36		42%	48
12/10/09		0.34		45%	49
12/11/09		0.36		45%	50
12/12/09		0.37		47%	51
12/13/09		0.35		49%	52
12/14/09		0.34		53%	53
12/15/09		0.35		56%	54
1/5/10	0.56	0.39	17%	56%	55
2/3/10	0.58	0.35	23%	62%	56
2/21/10		0.49		71%	57
2/22/10		0.36		76%	58
2/23/10		0.37		82%	59
2/24/10		0.37			
2/25/10		0.38			
2/26/10		0.38			
2/27/10		0.38			
3/1/10	0.69	0.39	30%		
4/5/10	0.54	0.34	20%		
5/6/10	0.61	0.41	20%		
6/2/10	0.73	0.43	30%		
7/8/10	0.88	0.43	45%		
8/2/10	0.87	0.46	41%		
9/1/10	0.65	0.4			
9/13/10		0.42			
9/14/10		0.38			
9/15/10		0.4			
9/16/10		0.39			
10/5/10	0.86	0.44	42%		
11/3/10	0.79	0.4	39%		
12/2/10	1.18	0.36	82%		
1/6/11	0.62	0.4	22%		
2/2/11	0.64	0.37	27%		
3/1/11	0.48	0.33	15%		
4/4/11	0.56	0.32	24%		
5/3/11	0.59	0.46	13%		
5/13/11		0.43			
5/14/11		0.42			
5/15/11		0.41			
6/1/11	0.59	0.34	25%		

Table B-1: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Antimony

Date	Antimony Influent µg/L)	Antimony Final Effluent (µg/L)	Antimony Percent Removal	Percent Removal in Order	Rank
7/6/11	0.52	0.46	6%		
8/1/11	0.74	0.45	29%		
9/1/11	0.7	0.37	33%		
10/3/11	0.54	0.39	15%		
11/3/11	0.6	0.38	22%		
12/5/11	0.57	0.34	23%		
1/4/12	0.59	0.39	20%		
2/6/12	0.53	0.36	17%		
3/1/12	0.55	0.34	21%		
3/16/12		0.33			
3/17/12		0.34			
3/26/12		0.34			
3/27/12		0.32			
4/5/12	0.53	0.37	16%		
5/1/12	0.60	0.37	23%		
6/1/12	0.85	0.40	45%		

*Asterisks indicate influent data removed due to being above the 2.1 standard deviations or 1.18 µg/L; therefore, considered outliers.

<u>**Antimony Removal Rate Calculations**</u>

Total Number of Samples	59
Median =	27%
ADRE =	**31%**
MRE =	**43%**

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 59*(0.3) =	18
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**22%**

<u>**Maximum and Minimum Values**</u>

Maximum Raw Sewage (µg/L) =	**1.18**
Average Raw Sewage (µg/L) =	**0.72**
Maximum Final Effluent (µg/L) =	**0.58**
Average Final Effluent (µg/L) =	**0.41**

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
1/3/08	*2.99	1.16		3%	1
2/4/08	*2.97	1.03		12%	2
3/25/08	2.25	1.12	50%	15%	3
4/3/08	2.29	1.4	39%	19%	4
5/5/08	2.43	0.76	69%	22%	5
6/3/08	2.73	1.23	55%	28%	6
7/2/08	2.43	0.92	62%	29%	7
8/5/08	1.81	1.08	40%	30%	8
9/3/08	2.79	1.27	54%	30%	9
10/7/08	2.11	1.05	50%	32%	10
11/4/08	*5.55	1.23		33%	11
12/3/08	2.7	0.95	65%	33%	12
1/6/09	1.82	0.75	59%	36%	13
2/4/09	2.66	1.27	52%	37%	14
3/3/09	1.86	0.96	48%	38%	15
4/7/09	1.96	0.97	51%	39%	16
5/4/09	1.42	0.95	33%	39%	17
6/1/09	1.36	0.87	36%	39%	18
7/8/09	2.28	1.38	39%	39%	19
7/11/09	1.8	0.93	48%	40%	20
7/12/09	1.9	1.3	32%	41%	21
7/13/09	2.3	1.2	48%	42%	22
7/14/09	*3.1	1.16		42%	23
8/5/09	2.57	1.24	52%	42%	24
8/23/09		1.09		42%	25
8/24/09		1.09		43%	26
8/25/09		1.13		43%	27
8/26/09		1.14		45%	28
8/27/09		1.18		45%	29
8/28/09		1.35		46%	30
8/29/09		1.67		47%	31
9/1/09	2.4	1.18	51%	48%	32
10/5/09	2.15	0.93	57%	48%	33
11/5/09	2.28	1.11	51%	48%	34
12/1/09		1.33		48%	35
12/2/09	2.56	1.25	51%	48%	36
12/3/09		1.14		48%	37
12/4/09		1.18		50%	38
12/5/09		1.23		50%	39
12/6/09		1.11		51%	40
12/7/09		1.06		51%	41
12/8/09		1.08		51%	42
12/9/09		1.19		51%	43

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
12/10/09		1.14		51%	44
12/11/09		1.02		51%	45
12/12/09		1.15		51%	46
12/13/09		1.13		52%	47
12/14/09		0.93		52%	48
12/15/09		0.95		52%	49
1/5/10	1.88	1.09	42%	52%	50
2/3/10	2.19	0.99	55%	52%	51
2/21/10		0.98		52%	52
2/22/10		0.91		53%	53
2/23/10		1.24		54%	54
2/24/10		1.68		54%	55
2/25/10		1.78		54%	56
2/26/10		1.62		54%	57
2/27/10		1.26		55%	58
3/1/10	2.54	1.25	51%	55%	59
4/5/10	2.3	0.8	65%	55%	60
5/6/10	2.55	1.07	58%	55%	61
6/2/10	2.55	1.18	54%	55%	62
7/8/10	2.22	1.27	43%	55%	63
8/2/10	2.34	1.12	52%	56%	64
9/1/10	1.69	0.96	43%	57%	65
9/13/10		0.88		57%	66
9/14/10		0.9		57%	67
9/15/10		0.88		57%	68
9/16/10		0.9		57%	69
10/5/10	2.05	0.98	52%	58%	70
11/3/10	2.1	0.97	54%	58%	71
12/2/10	2.77	0.88	68%	58%	72
1/6/11	1.24	1.05	15%	59%	73
2/2/11	2.14	0.95	56%	60%	74
3/1/11	2.11	0.96	55%	60%	75
4/4/11	2.05	1.13	45%	61%	76
5/3/11	1.8	0.93	48%	62%	77
5/8/11	1.13	1	12%	62%	78
5/9/11	1.8	0.98	46%	63%	79
5/10/11	2.23	0.96	57%	65%	80
5/11/11	1.16	1.13	3%	65%	81
5/12/11	1.45	0.89	39%	68%	82
5/13/11	1.51	1.07	29%	69%	83
5/14/11	1.38	1	28%		
5/15/11	1.26	1.02	19%		
5/16/11	1.15	0.9	22%		

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
5/17/11	1.5	0.79	47%		
5/18/11	1.9	0.81	57%		
5/19/11	2.02	0.86	57%		
5/20/11	2.11	0.88	58%		
5/21/11	1.92	0.92	52%		
5/22/11	1.8	0.82	54%		
5/23/11	1.83	0.82	55%		
5/24/11	2.09	0.84	60%		
5/25/11	2.03	0.92	55%		
5/26/11	2.12	0.88	58%		
5/27/11	1.85	0.9	51%		
5/28/11	1.9	0.94	51%		
5/29/11	1.33	0.79	41%		
5/30/11	1.35	0.95	30%		
5/31/11	1.63	0.94	42%		
6/1/11	1.62	0.85	48%		
6/2/11	1.95	0.91	53%		
6/3/11	1.87	1.03	45%		
6/4/11	1.77	1.09	38%		
6/5/11	1.4	0.94	33%		
6/6/11	1.98				
6/7/11	1.89				
6/8/11	2.65				
6/9/11	1.99				
6/10/11	2.1				
6/11/11	1.87				
6/12/11	1.83				
6/13/11	1.84				
6/14/11	1.93				
6/15/11	2.28				
6/16/11	1.55				
6/17/11	2.37				
6/18/11	1.54				
6/19/11	1.43				
6/20/11	2.1				
6/21/11	1.62				
6/23/11	2.26				
6/24/11	1.98				
6/25/11	2.07				
6/26/11	1.99				
6/27/11	1.98				
6/28/11	1.94				
6/29/11	2.09				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
7/1/11	1.51				
7/2/11	1.15				
7/3/11	1.56				
7/4/11	1.31				
7/5/11	1.47				
7/6/11	1.26	0.79	37%		
7/7/11	1.29				
7/8/11	1.36				
7/9/11	1.12				
7/10/11	1.5				
7/11/11	2.05				
7/12/11	2.03				
7/13/11	1.86				
7/14/11	1.66				
7/15/11	1.61				
7/16/11	1.46				
7/17/11	1.51				
7/18/11	1.57				
7/19/11	1.93				
7/20/11	1.6				
7/21/11	1.69				
7/22/11	1.47				
7/23/11	1.32				
7/24/11	1.27				
7/25/11	1.47				
7/26/11	1.41				
7/27/11	1.38				
7/28/11	2.36				
7/29/11	2.14				
7/30/11	1.81				
7/31/11	1.94				
8/1/11	2.21	1	55%		
8/2/11	1.37				
8/3/11	1.4				
8/4/11	1.33				
8/5/11	1.07				
8/6/11	0.96				
8/7/11	1.22				
8/8/11	1.52				
8/9/11	1.25				
8/10/11	1.34				
8/11/11	1.42				
8/12/11	1.6				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
8/13/11	1.38				
8/14/11	1.34				
8/15/11	1.69				
8/16/11	1.73				
8/17/11	1.75				
8/18/11	1.58				
8/19/11	1.49				
8/20/11	1.41				
8/21/11	2.09				
8/22/11	1.87				
8/23/11	1.71				
8/24/11	1.75				
8/25/11	1.79				
8/26/11	1.66				
8/27/11	1.68				
8/28/11	1.67				
8/29/11	1.68				
8/30/11	1.74				
8/31/11	2.08				
9/1/11	1.61	1.13	30%		
9/2/11	1.87				
9/3/11	1.62				
9/4/11	1.46				
9/5/11	1.34				
9/6/11	1.84				
9/7/11	1.64				
9/8/11	1.63				
9/9/11	1.96				
9/10/11	1.64				
9/11/11	1.52				
9/12/11	1.72				
9/13/11	1.63				
9/14/11	1.46				
9/15/11	1.65				
9/16/11	1.81				
9/17/11	1.53				
9/18/11	1.78				
9/19/11	1.69				
9/20/11	1.47				
9/21/11	1.39				
9/22/11	1.59				
9/23/11	1.46				
9/24/11	1.2				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
9/25/11	1.13				
9/26/11	1.77				
9/27/11	1.49				
9/28/11	1.62				
9/29/11	1.57				
9/30/11	1.91				
10/1/11	1.39				
10/2/11	1.48				
10/3/11	1.34	0.82	39%		
10/4/11	1.48				
10/5/11	1.63				
10/6/11	1.49				
10/7/11	1.45				
10/8/11	1.32				
10/9/11	1.49				
10/10/11	1.4				
10/11/11	1.55				
10/12/11	1.46				
10/13/11	1.41				
10/14/11	1.55				
10/15/11	1.55				
10/16/11	1.4				
10/17/11	1.78				
10/18/11	1.75				
10/19/11	1.71				
10/20/11	1.6				
10/21/11	1.59				
10/22/11	2.5				
10/23/11	2.14				
10/24/11	1.75				
10/25/11	1.76				
10/26/11	1.63				
10/27/11	1.65				
10/28/11	1.62				
10/29/11	1.58				
10/30/11	1.38				
10/31/11	1.51				
11/1/11	1.9				
11/2/11	1.48				
11/3/11	1.69	0.98	42%		
11/4/11	1.7				
11/5/11	1.45				
11/6/11	1.39				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
11/7/11	1.65				
11/8/11	1.9				
11/9/11	1.76				
11/10/11	1.8				
11/11/11	1.76				
11/12/11	1.45				
11/13/11	1.29				
11/14/11	1.65				
11/15/11	2.02				
11/16/11	1.67				
11/17/11	1.53				
11/18/11	2				
11/19/11	1.59				
11/20/11	1.36				
11/21/11	1.82				
11/22/11	1.41				
11/23/11	1.37				
11/24/11	1.32				
11/25/11	1.16				
11/26/11	1.66				
11/27/11	1.46				
11/28/11	1.45				
11/29/11	1.9				
11/30/11	1.66				
12/1/11	1.62				
12/2/11	1.47				
12/3/11	1.44				
12/4/11	1.57				
12/5/11	1.76	0.66	63%		
12/6/11	1.76				
12/7/11	1.53				
12/8/11	1.72				
12/9/11	1.69				
12/10/11	1.3				
12/11/11	1.56				
12/12/11	1.6				
12/13/11	1.6				
12/14/11	1.51				
12/15/11	1.77				
12/16/11	1.8				
12/17/11	1.79				
12/18/11	1.58				
12/19/11	1.57				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
12/20/11	1.48				
12/21/11	1.51				
12/22/11	1.41				
12/23/11	1.98				
12/24/11	1.46				
12/25/11	1.59				
12/26/11	1.43				
12/27/11	1.44				
12/28/11	1.43				
12/29/11	1.48				
12/30/11	1.5				
1/1/2012	1.40				
1/2/2012	1.46				
1/3/2012	1.56				
1/4/2012	1.71	0.69	60%		
1/5/2012	1.57				
1/6/2012	1.45				
1/7/2012	1.85				
1/8/2012	1.84				
1/9/2012	2.08				
1/10/2012	1.97				
1/11/2012	1.77				
1/12/2012	2.19				
1/13/2012	1.74				
1/14/2012	1.61				
1/15/2012	1.55				
1/16/2012	1.75				
1/17/2012	1.62				
1/18/2012	2.06				
1/19/2012	1.87				
1/20/2012	1.65				
1/21/2012	1.80				
1/22/2012	1.63				
1/23/2012	1.78				
1/24/2012	1.73				
1/25/2012	2.06				
1/26/2012	1.83				
1/27/2012	1.56				
1/28/2012	1.78				
1/29/2012	1.61				
1/30/2012	1.65				
1/31/2012	1.55				
2/1/2012	1.56				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
2/2/2012	1.51				
2/3/2012	1.60				
2/4/2012	1.64				
2/5/2012	1.52				
2/6/2012	1.74	0.66	62%		
2/7/2012	1.82				
2/8/2012	1.83				
2/9/2012	1.82				
2/10/2012	1.59				
2/11/2012	1.97				
2/12/2012	2.26				
2/13/2012	1.78				
2/14/2012	1.91				
2/15/2012	2.21				
2/16/2012	1.75				
2/17/2012	1.86				
2/18/2012	2.53				
2/19/2012	1.99				
2/20/2012	1.85				
2/21/2012	1.77				
2/22/2012	2.18				
2/23/2012	1.83				
2/24/2012	1.61				
2/25/2012	1.68				
2/26/2012	2.26				
2/27/2012	1.70				
2/28/2012	2.30				
2/29/2012	2.06				
3/1/2012	1.90	0.98	48%		
3/2/2012	1.79				
3/3/2012	1.64				
3/4/2012	1.47				
3/5/2012	1.69				
3/6/2012	1.89				
3/7/2012	1.71				
3/8/2012	1.59				
3/9/2012	1.72				
3/10/2012	1.82				
3/11/2012	1.85				
3/12/2012	1.91				
3/13/2012	2.01				
3/14/2012	1.78				
3/15/2012	1.83				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
3/16/2012	2.21	1.06	52%		
3/17/2012	2.03	1.18	42%		
3/18/2012	2.09				
3/19/2012	2.05				
3/20/2012	*2.86				
3/21/2012	2.25				
3/22/2012	2.03				
3/23/2012	1.73				
3/24/2012	1.84				
3/25/2012	1.89				
3/26/2012	2.03				
3/27/2012	2.19				
3/28/2012	2.04				
3/29/2012	1.79				
3/30/2012	1.82				
3/31/2012	1.77				
4/1/2012	1.68				
4/2/2012	1.81				
4/3/2012	1.78				
4/4/2012	1.78				
4/5/2012	2.42	0.94	61%		
4/6/2012	1.69				
4/7/2012	1.76				
4/8/2012	1.47				
4/9/2012	1.70				
4/10/2012	1.87				
4/11/2012	1.77				
4/12/2012	2.73				
4/13/2012	2.27				
4/14/2012	2.36				
4/15/2012	1.87				
4/16/2012	1.77				
4/17/2012	1.85				
4/18/2012	1.79				
4/19/2012	1.87				
4/20/2012	1.89				
4/21/2012	1.98				
4/22/2012	1.61				
4/23/2012	1.79				
4/24/2012	1.88				
4/25/2012	1.81				
4/26/2012	1.98				
4/27/2012	1.73				

Table B-2: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Arsenic

Date	Arsenic Influent (µg/L)	Arsenic Final Effluent (µg/L)	Arsenic Percent Removal	Percent Removal in Order	Rank
4/28/2012	1.89				
4/29/2012	1.72				
4/30/2012	1.66				
5/1/2012	1.80	0.78	57%		
6/1/2012	1.74	1.28	26%		

*Asterisks indicate influent data removed due to being above the 2.54 standard deviations or 2. therefore, considered outliers.

<u>**Arsenic Removal Rate Calculations**</u>

Total Number of Samples	84
Median =	50.79%
ADWRE =	**47.41%**
MRE =	**40.48%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 83*(0.3) =	25
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**42%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**2.79**
Average Raw Sewage (µg/L) =	**1.75**
Maximum Final Effluent (µg/L) =	**1.78**
Average Final Effluent (µg/L) =	**1.04**

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
1/1/08	0.0203	0.00059	97.1%	-779.8283%	1
1/3/08	0.0334	0.00306	90.8%	-531.8182%	2
1/8/08	0.0173	0.0175	-1.2%	-26.7516%	3
1/15/08	0.0189	0.00054	97.1%	-1.1561%	4
1/22/08	0.022	0.139	-531.8%	0.0000%	5
1/29/08	0.546*	0.00148		63.0872%	6
2/4/08	0.458*	0.0055		91.6588%	7
3/25/08	0.0149	0.0055	63.1%	0.0000%	8
4/3/08	0.211	0.0176	91.7%	0.0000%	9
5/5/08	0.0231	0.011	52.4%	0.0000%	10
6/3/08	0.216	0.00182	99.2%	52.3810%	11
7/2/08	0.192	0.00014	99.9%	57.1429%	12
8/5/08	0.0218	0.00276	87.3%	58.6466%	13
9/3/08	0.0308	0.011	64.3%	63.5922%	14
10/7/08	0.155	0.00203	98.7%	64.2857%	15
11/4/08	0.0859	0.011	87.2%	64.9533%	16
12/3/08	0.0239	0.00073	96.9%	68.7890%	17
1/6/09	0.0358	0.011	69.3%	68.8797%	18
2/4/09	0.287	0.00273	99.0%	69.2737%	19
3/3/09	0.0266	0.011	58.6%	73.7945%	20
4/7/09	0.111	0.00327	97.1%	73.8562%	21
5/4/09	0.0179	0.00411	77.0%	74.3651%	22
6/1/09	0.0781	0.00149	98.1%	77.0391%	23
7/8/09	0.0233	0.205	-779.8%	77.0539%	24
7/14/09		0.00129		85.7143%	25
8/5/09	0.0339	0.0016	95.3%	77.2727%	26
8/23/09		0.00173		55.5556%	27
8/24/09		0.00373		79.6830%	28
8/25/09		0.00233		77.9789%	29
8/26/09		0.00113		95.9514%	30
8/27/09		0.00128		85.5769%	31
8/28/09		0.00169		69.0722%	32
8/29/09		0.00197		0.0000%	33
9/1/09	0.387*	0.003		97.0000%	34
10/5/09	0.003	0.003	0.0%	77.8761%	35
11/5/09	0.021	0.003	85.7%	78.0702%	36
12/1/09		0.003		97.5806%	37
12/2/09	0.062	0.00056	99.1%	79.8387%	38
12/3/09		0.0173		95.6332%	39
12/4/09		0.00374		71.5909%	40
12/5/09		0.0179		91.2281%	41
12/6/09		0.00246		72.0149%	42
12/7/09		0.00371		0.0000%	43
12/8/09		0.00567		87.7250%	44

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
12/9/09		0.0041		85.7685%	45
12/10/09		0.00583		59.6774%	46
12/11/09		0.0007		55.0898%	47
12/12/09		0.00073		77.4096%	48
12/13/09		0.00547		0.0000%	49
12/14/09		0.00415		58.7912%	50
12/15/09		0.00834		35.5263%	51
1/5/10	0.00972	0.00432	55.6%	85.2941%	52
2/3/10	0.0694	0.0141	79.7%	85.8890%	53
2/21/10		0.003		75.0831%	54
2/22/10		0.003		69.1358%	55
2/23/10		0.003		60.9375%	56
2/24/10		0.003		57.8652%	57
2/25/10		0.003		91.6667%	58
2/26/10		0.003		89.9058%	59
2/27/10		0.003		1.2270%	60
3/1/10	0.0663	0.0146	78.0%	87.1944%	61
4/5/10	0.0741	0.003	96.0%	87.3394%	62
5/6/10	0.0208	0.003	85.6%	87.3737%	63
6/2/10	0.0097	0.003	69.1%	90.4459%	64
7/8/10	0.003	0.003	0.0%	90.8383%	65
8/2/10	0.1	0.003	97.0%	91.4773%	66
9/1/10	0.0569	0.003	94.7%	91.6944%	67
9/13/10		0.003		0.0000%	68
9/14/10		0.003		52.2293%	69
9/15/10		0.003		0.0000%	70
9/16/10		0.003		84.8790%	71
10/5/10	0.0546	0.003	94.5%	91.8301%	72
11/3/10	0.124	0.003	97.6%	93.8119%	73
12/2/10	0.654*	0.003		77.0642%	74
1/6/11	0.0252	0.00646	74.4%	94.5055%	75
2/2/11	0.0687	0.003	95.6%	94.7276%	76
3/1/11	0.0264	0.0075	71.6%	95.2802%	77
4/4/11	0.0855	0.0075	91.2%	96.9456%	78
5/3/11	0.0268	0.0075	72.0%	97.0541%	79
5/8/11	0.0075	0.0075	0.0%	97.0936%	80
5/9/11	0.0611	0.0075	87.7%	97.1429%	81
5/10/11	0.0527	0.0075	85.8%	98.0922%	82
5/11/11	0.0186	0.0075	59.7%	98.6903%	83
5/12/11	0.0167	0.0075	55.1%	99.0488%	84
5/13/11	0.0332	0.0075	77.4%	99.0968%	85
5/14/11	0.0075	0.0075	0.0%	99.1574%	86
5/15/11	0.0182	0.0075	58.8%	99.9271%	87
5/16/11	0.0304	0.0196	35.5%		

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
5/17/11	0.0206	0.0075	63.6%		
5/18/11	0.0214	0.0075	65.0%		
5/19/11	0.0301	0.0075	75.1%		
5/20/11	0.0243	0.0075	69.1%		
5/21/11	0.0192	0.0075	60.9%		
5/22/11	0.0178	0.0075	57.9%		
5/23/11	0.09	0.0075	91.7%		
5/24/11	0.0743	0.0075	89.9%		
5/25/11	0.0163	0.0161	1.2%		
5/26/11	0.0075	0.0075	0.0%		
5/27/11	0.088	0.0075	91.5%		
5/28/11	0.0075	0.0075	0.0%		
5/29/11	0.0241	0.0075	68.9%		
5/30/11	0.0157	0.0199	-26.8%		
5/31/11	0.033	0.0075	77.3%		
6/1/11	0.05315	0.0075	85.9%		
6/2/11	0.0075	0.0075	0.0%		
6/3/11	0.0157	0.0075	52.2%		
6/4/11	0.0075	0.0075	0.0%		
6/5/11	0.0496	0.0075	84.9%		
6/6/11	0.14				
6/7/11	0.0271				
6/8/11	0.0313				
6/9/11	0.0201				
6/10/11	0.0175				
6/11/11	0.0075				
6/12/11	0.0075				
6/13/11	0.0233				
6/14/11	0.141				
6/15/11	0.136				
6/16/11	0.0538				
6/17/11	0.0318				
6/18/11	0.0075				
6/19/11	0.0075				
6/20/11	0.0504				
6/21/11	0.0546				
6/23/11	0.373*				
6/24/11	0.036				
6/25/11	0.0075				
6/26/11	0.0075				
6/27/11	0.0303				
6/28/11	0.0357				
6/29/11	0.0346				
7/1/11	0.149				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
7/2/11	0.0183				
7/3/11	0.0075				
7/4/11	0.0075				
7/5/11	0.0204				
7/6/11	0.0175	0.0075	57.1%		
7/7/11	0.0075				
7/8/11	0.0187				
7/9/11	0.0226				
7/10/11	0.0164				
7/11/11	0.157				
7/12/11	0.02				
7/13/11	0.0168				
7/14/11	0.0229				
7/15/11	0.0197				
7/16/11	0.0075				
7/17/11	0.0075				
7/18/11	0.0368				
7/19/11	0.161				
7/20/11	0.0657				
7/21/11	0.099				
7/22/11	0.0724				
7/23/11	0.0215				
7/24/11	0.0075				
7/25/11	0.14				
7/26/11	0.133				
7/27/11	0.157				
7/28/11	0.198				
7/29/11	0.0867				
7/30/11	0.0075				
7/31/11	0.0075				
8/1/11	0.0785	0.0075	90.4%		
8/2/11	0.0535				
8/3/11	0.166				
8/4/11	0.029				
8/5/11	0.0228				
8/6/11	0.0075				
8/7/11	0.0075				
8/8/11	0.0351				
8/9/11	0.0199				
8/10/11	0.0335				
8/11/11	0.0637				
8/12/11	0.0706				
8/13/11	0.0246				
8/14/11	0.0075				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
8/15/11	0.0726				
8/16/11	0.0662				
8/17/11	0.0508				
8/18/11	0.0269				
8/19/11	0.0075				
8/20/11	0.0075				
8/21/11	0.119				
8/22/11	0.179				
8/23/11	0.152				
8/24/11	0.0774				
8/25/11	0.0961				
8/26/11	0.0959				
8/27/11	0.0178				
8/28/11	0.0075				
8/29/11	0.0075				
8/30/11	0.0828				
8/31/11	0.076				
9/1/11	0.0327	0.0075	77.1%		
9/2/11	0.0075				
9/3/11	0.0075				
9/4/11	0.107				
9/5/11	0.0075				
9/6/11	0.0435				
9/7/11	0.0245				
9/8/11	0.0075				
9/9/11	0.0611				
9/10/11	0.0075				
9/11/11	0.0075				
9/12/11	0.0484				
9/13/11	0.0278				
9/14/11	0.0702				
9/15/11	0.0446				
9/16/11	0.0311				
9/17/11	0.0075				
9/18/11	0.0075				
9/19/11	0.0372				
9/20/11	0.0532				
9/21/11	0.0155				
9/22/11	0.0467				
9/23/11	0.0442				
9/24/11	0.0075				
9/25/11	0.0155				
9/26/11	0.0382				
9/27/11	0.0577				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
9/28/11	0.0761				
9/29/11	0.0207				
9/30/11	0.0434				
10/1/11	0.0075				
10/2/11	0.0075				
10/3/11	0.0372	0.0075	79.8%		
10/4/11	0.032				
10/5/11	0.0379				
10/6/11	0.0217				
10/7/11	0.0295				
10/8/11	0.0153				
10/9/11	0.00919				
10/10/11	0.0302				
10/11/11	0.0323				
10/12/11	0.0276				
10/13/11	0.0249				
10/14/11	0.0246				
10/15/11	0.0126				
10/16/11	0.0496				
10/17/11	0.0237				
10/18/11	0.00661				
10/19/11	0.0136				
10/20/11	0.0314				
10/21/11	0.0111				
10/22/11	0.0138				
10/23/11	0.0219				
10/24/11	0.015				
10/25/11	0.0236				
10/26/11	0.0192				
10/27/11	0.019				
10/28/11	0.00749				
10/29/11	0.0143				
10/30/11	0.0151				
10/31/11	0.0491				
11/1/11	0.0116				
11/2/11	0.0206				
11/3/11	0.00801	0.0025	68.8%		
11/4/11	0.0025				
11/5/11	0.0244				
11/6/11	0.0101				
11/7/11	0.0407				
11/8/11	0.0262				
11/9/11	0.0111				
11/10/11	0.0077				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
11/11/11	0.0301				
11/12/11	0.0025				
11/13/11	0.0025				
11/14/11	0.0025				
11/15/11	0.0192				
11/16/11	0.0051				
11/17/11	0.021				
11/18/11	0.0269				
11/19/11	0.0025				
11/20/11	0.0025				
11/21/11	0.0025				
11/22/11	0.0025				
11/23/11	0.0208				
11/24/11	0.0025				
11/25/11	0.0025				
11/26/11	0.00924				
11/27/11	0.027				
11/28/11	0.0311				
11/29/11	0.0321				
11/30/11	0.0354				
12/1/11	0.015				
12/2/11	0.0221				
12/3/11	0.0135				
12/4/11	0.00695				
12/5/11	0.0198	0.0025	87.4%		
12/6/11	0.00955				
12/7/11	0.0136				
12/8/11	0.0138				
12/9/11	0.00724				
12/10/11	0.0105				
12/11/11	0.00722				
12/12/11	0.0245				
12/13/11	0.0133				
12/14/11	0.0025				
12/15/11	0.0304				
12/16/11	0.0025				
12/17/11	0.0258				
12/18/11	0.0025				
12/19/11	0.00787				
12/20/11	0.0025				
12/21/11	0.0025				
12/22/11	0.0025				
12/23/11	0.0025				
12/24/11	0.0025				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
12/25/11	0.0025				
12/26/11	0.00637				
12/27/11	0.0025				
12/28/11	0.0216				
12/29/11	0.00976				
12/30/11	0.0156				
1/1/12	0.0025				
1/2/12	0.0025				
1/3/12	0.00699				
1/4/12	0.0025	0.0025	0.0%		
1/5/12	0.00637				
1/6/12	0.0025				
1/7/12	0.0025				
1/8/12	0.0025				
1/9/12	0.0104				
1/10/12	0.0178				
1/11/12	0.00634				
1/12/12	0.0025				
1/13/12	0.0156				
1/14/12	0.0025				
1/15/12	0.0025				
1/16/12	0.0146				
1/17/12	0.0102				
1/18/12	0.0391				
1/19/12	0.0273				
1/20/12	0.0025				
1/21/12	0.026				
1/22/12	0.0214				
1/23/12	0.0306				
1/24/12	0.0288				
1/25/12	0.0235				
1/26/12	0.0108				
1/27/12	0.0213				
1/28/12	0.0157				
1/29/12	0.0165				
1/30/12	0.0118				
1/31/12	0.0111				
2/1/12	0.0218				
2/2/12	0.0271				
2/3/12	0.0025				
2/4/12	0.0217				
2/5/12	0.0131				
2/6/12	0.0301	0.0025	91.7%		
2/7/12	0.0102				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
2/8/12	0.0223				
2/9/12	0.0025				
2/10/12	0.0162				
2/11/12	0.00807				
2/12/12	0.00895				
2/13/12	0.021				
2/14/12	0.00722				
2/15/12	0.0025				
2/16/12	0.0173				
2/17/12	0.0025				
2/18/12	0.00711				
2/19/12	0.0053				
2/20/12	0.0025				
2/21/12	0.0211				
2/22/12	0.00538				
2/23/12	0.0256				
2/24/12	0.0182				
2/25/12	0.0025				
2/26/12	0.00795				
2/27/12	0.00509				
2/28/12	0.0094				
2/29/12	0.0025				
3/1/12	0.017	0.0025	85.3%		
3/2/12	0.00756				
3/3/12	0.00653				
3/4/12	0.0025				
3/5/12	0.0145				
3/6/12	0.0156				
3/7/12	0.0106				
3/8/12	0.0128				
3/9/12	0.0162				
3/10/12	0.0154				
3/11/12	0.0025				
3/12/12	0.0286				
3/13/12	0.049				
3/14/12	0.0205				
3/15/12	0.0134				
3/16/12	0.0404	0.0025	93.8%		
3/17/12	0.0241	0.00553	77.1%		
3/18/12	0.0206				
3/19/12	0.0131				
3/20/12	0.025				
3/21/12	0.0025				
3/22/12	0.015				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
3/23/12	0.0153				
3/24/12	0.00654				
3/25/12	0.0127				
3/26/12	0.0153	0.004	73.9%		
3/27/12	0.0114	0.0025	78.1%		
3/28/12	0.0183				
3/29/12	0.0025				
3/30/12	0.0106				
3/31/12	0.0025				
4/1/12	0.00804				
4/2/12	0.0025				
4/3/12	0.0131				
4/4/12	0.0192				
4/5/12	0.0306	0.0025	91.8%		
4/6/12	0.0252				
4/7/12	0.0056				
4/8/12	0.0251				
4/9/12	0.0185				
4/10/12	0.0198				
4/11/12	0.0159				
4/12/12	0.0315				
4/13/12	0.0228				
4/14/12	0.0184				
4/15/12	0.0158				
4/16/12	0.0222				
4/17/12	0.0187				
4/18/12	0.0307				
4/19/12	0.00975				
4/20/12	0.0161				
4/21/12	0.0067				
4/22/12	0.0241				
4/23/12	0.0267				
4/24/12	0.0287				
4/25/12	0.0152				
4/26/12	0.015				
4/27/12	0.0187				
4/28/12	0.0097				
4/29/12	0.0204				
4/30/12	0.0181				

Table B-3: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Beryllium

Date	Beryllium Influent (µg/L)	Beryllium Final Effluent (µg/L)	Beryllium Percent Removal	Percent Removal in Order	Rank
5/1/12	0.0113	0.0025	77.9%		
6/1/12	0.00954	0.0025	73.8%		

*Asterisks indicate influent data removed due to being above the 2.7 standard deviations or 0.373 µg/L; therefore, considered outliers.

<u>Beryllium Removal Rate Calculations</u>

Total Number of Samples	87
Median =	77.27%
ADRE =	**51.92%**
MRE =	**72.93%**

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 82*(0.3) =	26
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**77%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (µg/L) =	**0.29**
Average Raw Sewage (µg/L) =	**0.03**
Maximum Final Effluent (µg/L) =	**0.21**
Average Final Effluent (µg/L) =	**0.01**

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
1/1/08	0.226	0.0043	98%	22%	1
1/3/08	0.276	0.0231	92%	49%	2
1/8/08	0.215	0.0169	92%	53%	3
1/15/08	0.131	0.025	81%	74%	4
1/22/08	0.152	0.119	22%	77%	5
1/29/08	0.674*	0.00277		78%	6
2/4/08	0.66*	0.00586		79%	7
3/25/08	0.27	0.0187	93%	81%	8
4/3/08	0.344	0.0214	94%	84%	9
5/5/08	0.31	0.0217	93%	84%	10
6/3/08	0.411	0.0134	97%	84%	11
7/2/08	0.34	0.02	94%	86%	12
8/5/08	0.304	0.0297	90%	87%	13
9/3/08	0.153	0.0358	77%	88%	14
10/7/08	0.285	0.0181	94%	89%	15
11/4/08	0.892*	0.02		89%	16
12/3/08	0.205	0.02	90%	89%	17
1/6/09	0.208	0.0126	94%	89%	18
2/4/09	0.424	0.019	96%	90%	19
3/3/09	0.291	0.032	89%	90%	20
4/7/09	0.372	0.0501	87%	90%	21
5/4/09	0.22	0.025	89%	91%	22
6/1/09	0.294	0.016	95%	91%	23
7/8/09	0.002	0.0665	NA	91%	24
7/14/09		0.002		91%	25
8/5/09	0.0443	0.002	95%	91%	26
8/23/09		0.0135		91%	27
8/24/09		0.00288		92%	28
8/25/09		0.002		92%	29
8/26/09		0.00424		92%	30
8/27/09		0.00804		92%	31
8/28/09		0.00434		92%	32
8/29/09		0.002		92%	33
9/1/09	0.525*	0.0452		93%	34
10/5/09	0.245	0.00905	96%	93%	35
11/5/09	0.174	0.002	99%	93%	36
12/1/09		0.00751		93%	37
12/2/09	0.319	0.0105	97%	93%	38
12/3/09		0.00751		94%	39
12/4/09		0.00891		94%	40
12/5/09		0.00871		94%	41
12/6/09		0.0096		94%	42
12/7/09		0.00244		94%	43

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
12/8/09		0.012		95%	44
12/9/09		0.00081		95%	45
12/10/09		0.00127		95%	46
12/11/09		0.0132		95%	47
12/12/09		0.0115		96%	48
12/13/09		0.0131		96%	49
12/14/09		0.00225		96%	50
12/15/09		0.00817		96%	51
1/5/10	0.106	0.0272	74%	96%	52
2/3/10	0.246	0.0187	92%	96%	53
2/21/10		0.0252		96%	54
2/22/10		0.002		96%	55
2/23/10		0.002		96%	56
2/24/10		0.002		96%	57
2/25/10		0.002		96%	58
2/26/10		0.002		96%	59
2/27/10		0.002		96%	60
3/1/10	0.307	0.0144	95%	96%	61
4/5/10	0.112	0.00497	96%	96%	62
5/6/10	0.334	0.0304	91%	97%	63
6/2/10	0.237	0.00516	98%	97%	64
7/8/10	0.294	0.04	86%	97%	65
8/2/10	0.296	0.0202	93%	97%	66
9/1/10	0.3	0.154	49%	97%	67
9/13/10		0.00469		97%	68
9/14/10		0.0456		97%	69
9/15/10		0.022		97%	70
9/16/10		0.0123		97%	71
10/5/10	0.284	0.0218	92%	97%	72
11/3/10	0.26	0.0222	91%	97%	73
12/2/10	0.824*	0.0208		97%	74
1/6/11	0.0969	0.0206	79%	97%	75
2/2/11	0.229	0.02	91%	97%	76
3/1/11	0.165	0.008	95%	97%	77
4/4/11	0.265	0.0578	78%	98%	78
5/3/11	0.24	0.025	90%	98%	79
5/8/11	0.211	0.008	96%	98%	80
5/9/11	0.268	0.008	97%	98%	81
5/10/11	0.208	0.008	96%	98%	82
5/11/11	0.252	0.008	97%	98%	83
5/12/11	0.203	0.0321	84%	98%	84
5/13/11	0.338	0.008	98%	99%	85
5/14/11	0.254	0.008	97%		

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
5/15/11	0.384	0.008	98%		
5/16/11	0.237	0.0378	84%		
5/17/11	0.313	0.02	94%		
5/18/11	0.297	0.008	97%		
5/19/11	0.315	0.008	97%		
5/20/11	0.259	0.0198	92%		
5/21/11	0.211	0.008	96%		
5/22/11	0.293	0.008	97%		
5/23/11	0.416	0.008	98%		
5/24/11	0.329	0.008	98%		
5/25/11	0.195	0.0228	88%		
5/26/11	0.317	0.008	97%		
5/27/11	0.198	0.008	96%		
5/28/11	0.182	0.008	96%		
5/29/11	0.338	0.008	98%		
5/30/11	0.157	0.0166	89%		
5/31/11	0.183	0.008	96%		
6/1/11	0.2225	0.008	96%		
6/2/11	0.215	0.008	96%		
6/3/11	0.213	0.008	96%		
6/4/11	0.193	0.008	96%		
6/5/11	0.228	0.008	96%		
6/6/11	0.337				
6/7/11	0.187				
6/8/11	0.29				
6/9/11	0.208				
6/10/11	0.177				
6/11/11	0.181				
6/12/11	0.177				
6/13/11	0.18				
6/14/11	0.431				
6/15/11	0.4				
6/16/11	0.278				
6/17/11	0.19				
6/18/11	0.184				
6/19/11	0.201				
6/20/11	0.252				
6/21/11	0.204				
6/23/11	0.513*				
6/24/11	0.219				
6/25/11	0.175				
6/26/11	0.251				
6/27/11	0.195				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
6/28/11	0.279				
6/29/11	0.216				
7/1/11	0.271				
7/2/11	0.133				
7/3/11	0.118				
7/4/11	0.236				
7/5/11	0.183				
7/6/11	0.171	0.0807	53%		
7/7/11	0.317				
7/8/11	0.174				
7/9/11	0.169				
7/10/11	0.259				
7/11/11	0.359				
7/12/11	0.151				
7/13/11	0.171				
7/14/11	0.144				
7/15/11	0.114				
7/16/11	0.149				
7/17/11	0.134				
7/18/11	0.247				
7/19/11	0.29				
7/20/11	0.201				
7/21/11	0.24				
7/22/11	0.219				
7/23/11	0.136				
7/24/11	0.133				
7/25/11	0.159				
7/26/11	0.168				
7/27/11	0.166				
7/28/11	0.274				
7/29/11	0.28				
7/30/11	0.212				
7/31/11	0.15				
8/1/11	0.246	0.0395	84%		
8/2/11	0.216				
8/3/11	0.335				
8/4/11	0.172				
8/5/11	0.182				
8/6/11	0.196				
8/7/11	0.203				
8/8/11	0.192				
8/9/11	0.251				
8/10/11	0.172				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
8/11/11	0.206				
8/12/11	0.286				
8/13/11	0.231				
8/14/11	0.224				
8/15/11	0.263				
8/16/11	0.292				
8/17/11	0.338				
8/18/11	0.315				
8/19/11	0.277				
8/20/11	0.231				
8/21/11	0.349				
8/22/11	0.368				
8/23/11	0.29				
8/24/11	0.284				
8/25/11	0.318				
8/26/11	0.24				
8/27/11	0.248				
8/28/11	0.208				
8/29/11	0.267				
8/30/11	0.305				
8/31/11	0.433				
9/1/11	0.298	0.008	97%		
9/2/11	0.296				
9/3/11	0.21				
9/4/11	0.443				
9/5/11	0.298				
9/6/11	0.339				
9/7/11	0.33				
9/8/11	0.337				
9/9/11	0.408				
9/10/11	0.212				
9/11/11	0.328				
9/12/11	0.339				
9/13/11	0.278				
9/14/11	0.207				
9/15/11	0.251				
9/16/11	0.202				
9/17/11	0.285				
9/18/11	0.29				
9/19/11	0.238				
9/20/11	0.25				
9/21/11	0.224				
9/22/11	0.226				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
9/23/11	0.283				
9/24/11	0.357				
9/25/11	0.218				
9/26/11	0.252				
9/27/11	0.239				
9/28/11	0.199				
9/29/11	0.294				
9/30/11	0.252				
10/1/11	0.238				
10/2/11	0.277				
10/3/11	0.252	0.008	97%		
10/4/11	0.27				
10/5/11	0.316				
10/6/11	0.295				
10/7/11	0.28				
10/8/11	0.295				
10/9/11	0.25				
10/10/11	0.338				
10/11/11	0.297				
10/12/11	0.313				
10/13/11	0.292				
10/14/11	0.282				
10/15/11	0.265				
10/16/11	0.295				
10/17/11	0.296				
10/18/11	0.341				
10/19/11	0.285				
10/20/11	0.249				
10/21/11	0.257				
10/22/11	0.304				
10/23/11	0.249				
10/24/11	0.283				
10/25/11	0.294				
10/26/11	0.301				
10/27/11	0.269				
10/28/11	0.275				
10/29/11	0.247				
10/30/11	0.25				
10/31/11	0.262				
11/1/11	0.257				
11/2/11	0.308				
11/3/11	0.318	0.027	92%		
11/4/11	0.299				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
11/5/11	0.435				
11/6/11	0.337				
11/7/11	0.309				
11/8/11	0.38				
11/9/11	0.253				
11/10/11	0.201				
11/11/11	0.372				
11/12/11	0.205				
11/13/11	0.161				
11/14/11	0.213				
11/15/11	0.335				
11/16/11	0.206				
11/17/11	0.219				
11/18/11	1.21*				
11/19/11	0.403				
11/20/11	0.31				
11/21/11	0.252				
11/22/11	0.3				
11/23/11	0.282				
11/24/11	0.272				
11/25/11	0.255				
11/26/11	0.315				
11/27/11	0.163				
11/28/11	0.26				
11/29/11	0.191				
11/30/11	0.261				
12/1/11	0.246				
12/2/11	0.3				
12/3/11	0.268				
12/4/11	0.259				
12/5/11	0.36	0.0238	93%		
12/6/11	0.231				
12/7/11	0.236				
12/8/11	0.296				
12/9/11	0.827*				
12/10/11	0.195				
12/11/11	0.205				
12/12/11	0.18				
12/13/11	0.271				
12/14/11	0.231				
12/15/11	0.334				
12/16/11	0.25				
12/17/11	0.254				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
12/18/11	0.246				
12/19/11	0.266				
12/20/11	0.235				
12/21/11	0.186				
12/22/11	0.285				
12/23/11	0.234				
12/24/11	0.26				
12/25/11	0.206				
12/26/11	0.226				
12/27/11	0.257				
12/28/11	0.25				
12/29/11	0.262				
12/30/11	0.289				
1/1/12	0.24				
1/2/12	0.2				
1/3/12	0.23				
1/4/12	0.27	0.0235	91%		
1/5/12	0.3				
1/6/12	0.24				
1/7/12	0.29				
1/8/12	0.29				
1/9/12	0.25				
1/10/12	0.25				
1/11/12	0.22				
1/12/12	0.29				
1/13/12	0.26				
1/14/12	0.26				
1/15/12	0.28				
1/16/12	0.3				
1/17/12	0.25				
1/18/12	0.32				
1/19/12	0.32				
1/20/12	0.28				
1/21/12	0.36				
1/22/12	0.3				
1/23/12	0.31				
1/24/12	0.29				
1/25/12	0.33				
1/26/12	0.31				
1/27/12	0.27				
1/28/12	0.3				
1/29/12	0.27				
1/30/12	0.29				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
1/31/12	0.26				
2/1/12	0.27				
2/2/12	0.29				
2/3/12	0.35				
2/4/12	0.41				
2/5/12	0.26				
2/6/12	0.27	0.008	97%		
2/7/12	0.24				
2/8/12	0.25				
2/9/12	0.26				
2/10/12	0.27				
2/11/12	0.26				
2/12/12	0.32				
2/13/12	0.34				
2/14/12	0.32				
2/15/12	0.3				
2/16/12	0.3				
2/17/12	0.39				
2/18/12	0.29				
2/19/12	0.36				
2/20/12	0.32				
2/21/12	0.23				
2/22/12	0.27				
2/23/12	0.24				
2/24/12	0.19				
2/25/12	0.24				
2/26/12	0.22				
2/27/12	0.23				
2/28/12	0.24				
2/29/12	0.23				
3/1/12	0.24	0.0255	89%		
3/2/12	0.21				
3/3/12	0.22				
3/4/12	0.25				
3/5/12	0.3				
3/6/12	0.28				
3/7/12	0.26				
3/8/12	0.18				
3/9/12	0.2				
3/10/12	0.23				
3/11/12	0.24				
3/12/12	0.18				
3/13/12	0.28				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
3/14/12	0.28				
3/15/12	0.22				
3/16/12	0.24	0.0222	91%		
3/17/12	0.3	0.0223	93%		
3/18/12	0.22				
3/19/12	0.23				
3/20/12	0.25				
3/21/12	0.28				
3/22/12	0.25				
3/23/12	0.23				
3/24/12	0.23				
3/25/12	0.23				
3/26/12	0.27	0.008	97%		
3/27/12	0.24	0.008	97%		
3/28/12	0.27				
3/29/12	0.27				
3/30/12	0.26				
3/31/12	0.26				
4/1/12	0.2				
4/2/12	0.18				
4/3/12	0.16				
4/4/12	0.28				
4/5/12	0.26	0.0232	91%		
4/6/12	0.28				
4/7/12	0.27				
4/8/12	0.23				
4/9/12	0.3				
4/10/12	0.34				
4/11/12	0.28				
4/12/12	0.12				
4/13/12	0.29				
4/14/12	0.26				
4/15/12	0.28				
4/16/12	0.3				
4/17/12	0.3				
4/18/12	0.32				
4/19/12	0.29				
4/20/12	0.27				
4/21/12	0.27				
4/22/12	0.3				
4/23/12	0.3				
4/24/12	0.35				
4/25/12	0.31				

Table B-4: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cadmium

Date	Cadmium Influent (µg/L)	Cadmium Final Effluent (µg/L)	Cadmium Percent Removal	Percent Removal in Order	Rank
4/26/12	0.28				
4/27/12	0.25				
4/28/12	0.24				
4/29/12	0.28				
4/30/12	0.25				
5/1/12	0.25	0.008	97%		
6/1/12	0.46	0.0189	96%		

*Asterisks indicate influent data removed due to being above 2 standard deviations or over 0.47 µg/L; therefore, considered outliers.

<u>Cadmium Removal Rate Calculations</u>

Total Number of Samples	85
Median =	94%
ADRE =	**91%**
MRE =	**93%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 85*(0.3) =	26
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**91%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (µg/L) =	**0.5**
Average Raw Sewage (µg/L) =	**0.3**
Maximum Final Effluent (µg/L) =	**0.15**
Average Final Effluent (µg/L) =	**0.02**

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
1/1/08		0.62		76%	1
1/3/08	6.11	0.61	90%	80%	2
1/8/08		0.6		83%	3
1/15/08		0.7		86%	4
1/22/08		0.75		86%	5
1/29/08		0.52		86%	6
2/4/08	9.06	0.73	92%	86%	7
3/25/08	5.24	0.47	91%	86%	8
4/3/08	4.95	0.53	89%	86%	9
5/5/08	4.55	0.39	91%	87%	10
6/3/08	5.47	0.38	93%	87%	11
7/2/08	4.48	0.34	92%	87%	12
8/5/08	5.67	0.49	91%	87%	13
9/3/08	4.5	0.39	91%	87%	14
10/7/08	5.43	0.58	89%	87%	15
11/4/08	20.7*	0.51		88%	16
12/3/08	7.2	0.54	93%	88%	17
1/6/09	6.01	0.42	93%	88%	18
2/4/09	4.72	0.47	90%	88%	19
3/3/09	5.75	0.34	94%	88%	20
4/7/09	5.45	0.55	90%	88%	21
5/4/09	4.93	0.52	89%	88%	22
6/1/09	5.63	0.65	88%	89%	23
7/8/09	5.96	0.63	89%	89%	24
7/11/09	4.5	1.1	76%	89%	25
7/12/09	4.5	0.92	80%	89%	26
7/13/09	4.3	0.72	83%	89%	27
7/14/09	4.6	0.62	87%	89%	28
8/5/09	5.75	0.56	90%	89%	29
8/23/09		0.48		89%	30
8/24/09		0.51		89%	31
8/25/09		0.51		89%	32
8/26/09		0.54		89%	33
8/27/09		0.48		89%	34
8/28/09		0.58		89%	35
8/29/09		0.68		89%	36
9/1/09	7.6	0.59	92%	90%	37
10/5/09	5.5	0.47	91%	90%	38
11/5/09	4.89	0.48	90%	90%	39
12/1/09		0.5		90%	40
12/2/09	6.17	0.54	91%	90%	41
12/3/09		0.48		90%	42
12/4/09		0.46		90%	43

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
12/5/09		0.5		90%	44
12/6/09		0.48		90%	45
12/7/09		0.89		90%	46
12/8/09		0.54		90%	47
12/9/09		0.63		90%	48
12/10/09		0.56		90%	49
12/11/09		0.5		90%	50
12/12/09		0.47		90%	51
12/13/09		0.44		90%	52
12/14/09		0.47		90%	53
12/15/09		0.46		91%	54
1/5/10	4.08	0.43	89%	91%	55
2/3/10	6.96	0.54	92%	91%	56
2/21/10		0.45		91%	57
2/22/10		0.51		91%	58
2/23/10		0.55		91%	59
2/24/10		0.57		91%	60
2/25/10		0.57		91%	61
2/26/10		0.59		91%	62
2/27/10		0.5		91%	63
3/1/10	6.49	0.59	91%	91%	64
4/5/10	4.32	0.4	91%	91%	65
5/6/10	5.05	0.36	93%	92%	66
6/2/10	4.74	0.52	89%	92%	67
7/8/10	6.7	0.65	90%	92%	68
8/2/10	6.35	0.52	92%	92%	69
9/1/10	5.66	0.55	90%	92%	70
9/13/10		0.53		92%	71
9/14/10		0.47		92%	72
9/15/10		0.53		92%	73
9/16/10		0.59		92%	74
10/5/10	7.75	0.44	94%	93%	75
11/3/10	8.44	0.59	93%	93%	76
12/2/10	10.8*	0.5		93%	77
1/6/11	5.87	0.43	93%	93%	78
2/2/11	5.83	0.6	90%	93%	79
3/1/11	4.62	0.41	91%	93%	80
4/4/11	5.13	0.53	90%	93%	81
5/3/11	5.19	0.56	89%	93%	82
5/8/11	4.09	0.5	88%	94%	83
5/9/11	5	0.5	90%	94%	84
5/10/11	5.43	0.53	90%	94%	85
5/11/11	5.04	0.55	89%	98%	86

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
5/12/11	7.25	0.59	92%		
5/13/11	5.33	0.74	86%		
5/14/11	5.15	0.72	86%		
5/15/11	5.51	0.71	87%		
5/16/11	4.54	0.6	87%		
5/17/11	5.18	0.59	89%		
5/18/11	4.58	0.57	88%		
5/19/11	4.16	0.55	87%		
5/20/11	4.87	0.56	89%		
5/21/11	4.3	0.62	86%		
5/22/11	4.27	0.55	87%		
5/23/11	4.87	0.61	87%		
5/24/11	5.03	0.55	89%		
5/25/11	5.01	0.61	88%		
5/26/11	4.88	0.58	88%		
5/27/11	4.92	0.59	88%		
5/28/11	4.41	0.6	86%		
5/29/11	4.01	0.46	89%		
5/30/11	3.69	0.53	86%		
5/31/11	4.85	0.49	90%		
6/1/11	4.47	0.48	89%		
6/2/11	4.16	0.46	89%		
6/3/11	4.3	0.44	90%		
6/4/11	4.53	0.44	90%		
6/5/11	3.44	0.4	88%		
6/6/11	4.91				
6/7/11	4.39				
6/8/11	9.45				
6/9/11	4.19				
6/10/11	4.93				
6/11/11	5.31				
6/12/11	5.17				
6/13/11	5.69				
6/14/11	5.19				
6/15/11	5.88				
6/16/11	5.79				
6/17/11	4.48				
6/18/11	4.81				
6/19/11	4.74				
6/20/11	5.2				
6/21/11	5.12				
6/23/11	4.52				
6/24/11	5.03				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
6/25/11	3.97				
6/26/11	4.34				
6/27/11	5.11				
6/28/11	5.09				
6/29/11	4.8				
7/1/11	6				
7/2/11	4.67				
7/3/11	4.28				
7/4/11	6.34				
7/5/11	4.54				
7/6/11	5.18	0.54	90%		
7/7/11	5.55				
7/8/11	4.62				
7/9/11	3.53				
7/10/11	3.85				
7/11/11	4.95				
7/12/11	5.22				
7/13/11	15.8*				
7/14/11	5.73				
7/15/11	4.92				
7/16/11	4.33				
7/17/11	4.58				
7/18/11	5.13				
7/19/11	4.91				
7/20/11	5.44				
7/21/11	5.24				
7/22/11	5.16				
7/23/11	5.54				
7/24/11	4				
7/25/11	5.2				
7/26/11	5.34				
7/27/11	5.29				
7/28/11	5.35				
7/29/11	5.03				
7/30/11	6.31				
7/31/11	5.17				
8/1/11	6.19	0.49	92%		
8/2/11	5.63				
8/3/11	6.34				
8/4/11	6.98				
8/5/11	5.16				
8/6/11	5.43				
8/7/11	6.05				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
8/8/11	5.81				
8/9/11	4.99				
8/10/11	4.83				
8/11/11	5.49				
8/12/11	4.92				
8/13/11	4.37				
8/14/11	4.67				
8/15/11	5.3				
8/16/11	6.4				
8/17/11	7.41				
8/18/11	5.42				
8/19/11	5.43				
8/20/11	5.76				
8/21/11	9.38				
8/22/11	7.35				
8/23/11	10.2*				
8/24/11	5.67				
8/25/11	6.42				
8/26/11	5.39				
8/27/11	4.86				
8/28/11	3.02				
8/29/11	5.45				
8/30/11	5.6				
8/31/11	6.75				
9/1/11	6.27	0.38	94%		
9/2/11	5.98				
9/3/11	5.73				
9/4/11	5.51				
9/5/11	5.5				
9/6/11	6.9				
9/7/11	6.53				
9/8/11	6.59				
9/9/11	8.31				
9/10/11	5.22				
9/11/11	6.74				
9/12/11	6.66				
9/13/11	4.44				
9/14/11	4.09				
9/15/11	5.44				
9/16/11	4.66				
9/17/11	4.93				
9/18/11	4.18				
9/19/11	4.64				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
9/20/11	4.32				
9/21/11	4.21				
9/22/11	4.18				
9/23/11	6.16				
9/24/11	5.01				
9/25/11	4.16				
9/26/11	4.43				
9/27/11	4.41				
9/28/11	5.14				
9/29/11	4.58				
9/30/11	4.59				
10/1/11	4.21				
10/2/11	3.86				
10/3/11	4.08	0.35	91%		
10/4/11	4.68				
10/5/11	6.2				
10/6/11	5.46				
10/7/11	5.31				
10/8/11	4.5				
10/9/11	4.64				
10/10/11	4.87				
10/11/11	4.9				
10/12/11	5.62				
10/13/11	5.12				
10/14/11	4.66				
10/15/11	4.64				
10/16/11	4.04				
10/17/11	5.08				
10/18/11	5.49				
10/19/11	5.52				
10/20/11	5.04				
10/21/11	5.74				
10/22/11	4.75				
10/23/11	4.95				
10/24/11	5.03				
10/25/11	4.62				
10/26/11	5.17				
10/27/11	4.45				
10/28/11	4.94				
10/29/11	4.26				
10/30/11	3.52				
10/31/11	4.38				
11/1/11	4.79				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
11/2/11	4.6				
11/3/11	4.93	0.45	91%		
11/4/11	5.93				
11/5/11	4.31				
11/6/11	4.41				
11/7/11	5.08				
11/8/11	5.3				
11/9/11	4.78				
11/10/11	4.79				
11/11/11	6.26				
11/12/11	3.82				
11/13/11	3.05				
11/14/11	4.24				
11/15/11	5.04				
11/16/11	5.98				
11/17/11	3.76				
11/18/11	7.85				
11/19/11	5.9				
11/20/11	3.93				
11/21/11	4.08				
11/22/11	4.56				
11/23/11	4.39				
11/24/11	4.48				
11/25/11	3.48				
11/26/11	4.61				
11/27/11	3.23				
11/28/11	3.53				
11/29/11	3.26				
11/30/11	4.14				
12/1/11	3.56				
12/2/11	4				
12/3/11	3.63				
12/4/11	3.54				
12/5/11	4.48	0.37	92%		
12/6/11	3.87				
12/7/11	4.13				
12/8/11	4.75				
12/9/11	4.69				
12/10/11	3.71				
12/11/11	3.39				
12/12/11	3.58				
12/13/11	4.61				
12/14/11	4.11				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
12/15/11	4.75				
12/16/11	4.4				
12/17/11	3.81				
12/18/11	3.71				
12/19/11	4.18				
12/20/11	4.4				
12/21/11	5				
12/22/11	5				
12/23/11	4.82				
12/24/11	4.03				
12/25/11	5.08				
12/26/11	4.7				
12/27/11	4.16				
12/28/11	4.34				
12/29/11	4.64				
12/30/11	5.74				
1/1/2012	4.02				
1/2/2012	3.60				
1/3/2012	3.94				
1/4/2012	4.06	0.36	91%		
1/5/2012	7.29				
1/6/2012	16.2*				
1/7/2012	3.82				
1/8/2012	3.85				
1/9/2012	6.75				
1/10/2012	6.12				
1/11/2012	5.40				
1/12/2012	6.62				
1/13/2012	5.61				
1/14/2012	4.31				
1/15/2012	5.15				
1/16/2012	7.00				
1/17/2012	4.72				
1/18/2012	5.61				
1/19/2012	5.46				
1/20/2012	4.86				
1/21/2012	5.24				
1/22/2012	4.52				
1/23/2012	7.01				
1/24/2012	6.99				
1/25/2012	7.61				
1/26/2012	4.72				
1/27/2012	4.50				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
1/28/2012	13.5*				
1/29/2012	4.54				
1/30/2012	5.12				
1/31/2012	4.75				
2/1/2012	4.83				
2/2/2012	4.64				
2/3/2012	4.97				
2/4/2012	5.62				
2/5/2012	4.56				
2/6/2012	4.56	0.45	90%		
2/7/2012	4.64				
2/8/2012	4.92				
2/9/2012	5.78				
2/10/2012	5.44				
2/11/2012	4.09				
2/12/2012	4.24				
2/13/2012	4.58				
2/14/2012	4.96				
2/15/2012	6.02				
2/16/2012	5.64				
2/17/2012	5.75				
2/18/2012	4.67				
2/19/2012	5.42				
2/20/2012	8.82				
2/21/2012	4.78				
2/22/2012	4.72				
2/23/2012	4.32				
2/24/2012	4.27				
2/25/2012	3.94				
2/26/2012	3.91				
2/27/2012	3.88				
2/28/2012	4.01				
2/29/2012	5.59				
3/1/2012	7.44	0.51	93%		
3/2/2012	5.97				
3/3/2012	4.90				
3/4/2012	4.33				
3/5/2012	4.78				
3/6/2012	6.05				
3/7/2012	4.62				
3/8/2012	4.47				
3/9/2012	4.89				
3/10/2012	4.34				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
3/11/2012	4.50				
3/12/2012	4.86				
3/13/2012	4.76				
3/14/2012	6.62				
3/15/2012	4.64				
3/16/2012	4.27	0.44	90%		
3/17/2012	3.83	0.52	86%		
3/18/2012	4.27				
3/19/2012	4.49				
3/20/2012	4.84				
3/21/2012	4.85				
3/22/2012	4.90				
3/23/2012	5.07				
3/24/2012	4.83				
3/25/2012	5.34				
3/26/2012	203*				
3/27/2012	6.26				
3/28/2012	5.52				
3/29/2012	4.46				
3/30/2012	4.60				
3/31/2012	4.36				
4/1/2012	3.97				
4/2/2012	4.32				
4/3/2012	4.15				
4/4/2012	8.63				
4/5/2012	7.69	0.56	93%		
4/6/2012	5.84				
4/7/2012	5.20				
4/8/2012	3.92				
4/9/2012	4.76				
4/10/2012	4.52				
4/11/2012	5.28				
4/12/2012	4.67				
4/13/2012	5.40				
4/14/2012	8.30				
4/15/2012	4.10				
4/16/2012	4.46				
4/17/2012	4.60				
4/18/2012	5.47				
4/19/2012	4.66				
4/20/2012	5.07				
4/21/2012	4.70				
4/22/2012	3.95				

Table B-5: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Chromium

Date	Chromium Influent (µg/L)	Chromium Final Effluent (µg/L)	Chromium Percent Removal	Percent Removal in Order	Rank
4/23/2012	6.35				
4/24/2012	5.65				
4/25/2012	5.36				
4/26/2012	4.94				
4/27/2012	5.05				
4/28/2012	4.07				
4/29/2012	4.49				
4/30/2012	5.78				
5/1/2012	6.42	0.53	92%		
6/1/2012	5.96	0.10	98%		

*Asterisks indicate influent data removed due to being above the 2.7 standard deviations or 9.45 µg/L; therefore, considered outliers.

<u>Chromium Removal Rate Calculations</u>

Total Number of Samples	86
Median =	90%
ADRE =	**90%**
MRE =	**90%**

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 84*(0.3) =	26
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**89%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (µg/L) =	**9.5**
Average Raw Sewage (µg/L) =	**5.1**
Maximum Final Effluent (µg/L) =	**1.10**
Average Final Effluent (µg/L) =	**0.53**

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
1/1/08		2.54		95%	1
1/3/08	101	2.28	98%	96%	2
1/8/08		3.37		96%	3
1/15/08		3.04		96%	4
1/22/08		3.13		96%	5
1/29/08		2.7		96%	6
2/4/08	138	3.26	98%	96%	7
3/25/08	146	2.23	98%	97%	8
4/3/08	85.6	2.81	97%	97%	9
5/5/08	94.8	2.75	97%	97%	10
6/3/08	105	2.63	97%	97%	11
7/2/08	121	2.41	98%	97%	12
8/5/08	132	1.94	99%	97%	13
9/3/08	92.9	1.99	98%	97%	14
10/7/08	126	2.33	98%	97%	15
11/4/08	400*	2.12		97%	16
12/3/08	140	2.54	98%	97%	17
1/6/09	121	2.82	98%	97%	18
2/4/09	97.3	2.82	97%	97%	19
3/3/09	96.6	3.41	96%	97%	20
4/7/09	121	3.64	97%	97%	21
5/4/09	102	3.85	96%	97%	22
6/1/09	100	2.87	97%	97%	23
7/8/09	100	2.62	97%	97%	24
7/11/09	85	2.5	97%	97%	25
7/12/09	83	2.7	97%	97%	26
7/13/09	110	2.7	98%	97%	27
7/14/09	110	4.79	96%	97%	28
8/5/09	209	2.3	99%	97%	29
8/23/09		2.29		97%	30
8/24/09		2.21		97%	31
8/25/09		2.28		97%	32
8/26/09		2.36		97%	33
8/27/09		2.06		97%	34
8/28/09		2.6		97%	35
8/29/09		2.82		98%	36
9/1/09	219	3.09	99%	98%	37
10/5/09	170	2.47	99%	98%	38
11/5/09	156	3	98%	98%	39
12/1/09		3.06		98%	40
12/2/09	157	2.88	98%	98%	41
12/3/09		2.87		98%	42
12/4/09		2.86		98%	43

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
12/5/09		2.93		98%	44
12/6/09		3.08		98%	45
12/7/09		3.15		98%	46
12/8/09		3.26		98%	47
12/9/09		3.46		98%	48
12/10/09		3.51		98%	49
12/11/09		2.78		98%	50
12/12/09		2.94		98%	51
12/13/09		2.61		98%	52
12/14/09		2.76		98%	53
12/15/09		2.62		98%	54
1/5/10	141	3.1	98%	98%	55
2/3/10	152	3.42	98%	98%	56
2/21/10		3.75		98%	57
2/22/10		3.41		98%	58
2/23/10		4.01		98%	59
2/24/10		4.76		98%	60
2/25/10		3.69		98%	61
2/26/10		3.85		98%	62
2/27/10		3.51		98%	63
3/1/10	178	3.22	98%	98%	64
4/5/10	234	4.11	98%	98%	65
5/6/10	167	2.32	99%	98%	66
6/2/10	108	2.58	98%	98%	67
7/8/10	186	2.92	98%	98%	68
8/2/10	134	2.25	98%	98%	69
9/1/10	146	1.97	99%	98%	70
9/13/10		1.74		98%	71
9/14/10		2.21		98%	72
9/15/10		2.05		98%	73
9/16/10		2.01		98%	74
10/5/10	175	2.31	99%	98%	75
11/3/10	176	2.75	98%	98%	76
12/2/10	197	2.64	99%	99%	77
1/6/11	128	3	98%	99%	78
2/2/11	179	3.43	98%	99%	79
3/1/11	153	3.13	98%	99%	80
4/4/11	130	3.8	97%	99%	81
5/3/11	126	2.95	98%	99%	82
5/8/11	113	3.06	97%	99%	83
5/9/11	206	3.36	98%	99%	84
5/10/11	175	3.22	98%	99%	85
5/11/11	155	2.63	98%	99%	86

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
5/12/11	189	2.36	99%		
5/13/11	170	3.41	98%		
5/14/11	137	3.25	98%		
5/15/11	187	3.76	98%		
5/16/11	115	3.13	97%		
5/17/11	143	3.19	98%		
5/18/11	119	2.99	97%		
5/19/11	132	3.1	98%		
5/20/11	142	3.69	97%		
5/21/11	120	3.8	97%		
5/22/11	125	4.8	96%		
5/23/11	144	4.32	97%		
5/24/11	117	4.2	96%		
5/25/11	129	3.68	97%		
5/26/11	128	3.25	97%		
5/27/11	169	3.33	98%		
5/28/11	143	2.99	98%		
5/29/11	112	3.33	97%		
5/30/11	156	3.22	98%		
5/31/11	151	3.41	98%		
6/1/11	116	3.26	97%		
6/2/11	116	3.17	97%		
6/3/11	131	3.23	98%		
6/4/11	120	2.87	98%		
6/5/11	95.7	2.83	97%		
6/6/11	152				
6/7/11	137				
6/8/11	174				
6/9/11	113				
6/10/11	118				
6/11/11	144				
6/12/11	122				
6/13/11	135				
6/14/11	136				
6/15/11	162				
6/16/11	138				
6/17/11	126				
6/18/11	146				
6/19/11	149				
6/20/11	155				
6/21/11	145				
6/23/11	124				
6/24/11	128				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
6/25/11	114				
6/26/11	153				
6/27/11	141				
6/28/11	140				
6/29/11	130				
7/1/11	149				
7/2/11	244*				
7/3/11	133				
7/4/11	147				
7/5/11	115				
7/6/11	136	4.19	97%		
7/7/11	146				
7/8/11	122				
7/9/11	119				
7/10/11	113				
7/11/11	203				
7/12/11	170				
7/13/11	133				
7/14/11	139				
7/15/11	122				
7/16/11	121				
7/17/11	126				
7/18/11	142				
7/19/11	135				
7/20/11	139				
7/21/11	127				
7/22/11	122				
7/23/11	125				
7/24/11	101				
7/25/11	123				
7/26/11	111				
7/27/11	119				
7/28/11	132				
7/29/11	134				
7/30/11	128				
7/31/11	133				
8/1/11	172	2.77	98%		
8/2/11	164				
8/3/11	154				
8/4/11	156				
8/5/11	128				
8/6/11	158				
8/7/11	180				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
8/8/11	274*				
8/9/11	144				
8/10/11	177				
8/11/11	176				
8/12/11	129				
8/13/11	109				
8/14/11	117				
8/15/11	130				
8/16/11	164				
8/17/11	193				
8/18/11	167				
8/19/11	151				
8/20/11	157				
8/21/11	243*				
8/22/11	192				
8/23/11	157				
8/24/11	209				
8/25/11	212				
8/26/11	167				
8/27/11	160				
8/28/11	126				
8/29/11	148				
8/30/11	175				
8/31/11	213				
9/1/11	167	1.63	99%		
9/2/11	176				
9/3/11	187				
9/4/11	151				
9/5/11	140				
9/6/11	157				
9/7/11	159				
9/8/11	167				
9/9/11	246*				
9/10/11	129				
9/11/11	193				
9/12/11	190				
9/13/11	126				
9/14/11	130				
9/15/11	132				
9/16/11	123				
9/17/11	155				
9/18/11	117				
9/19/11	130				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
9/20/11	140				
9/21/11	124				
9/22/11	123				
9/23/11	127				
9/24/11	123				
9/25/11	117				
9/26/11	127				
9/27/11	129				
9/28/11	126				
9/29/11	139				
9/30/11	133				
10/1/11	150				
10/2/11	128				
10/3/11	138	2.7	98%		
10/4/11	147				
10/5/11	161				
10/6/11	149				
10/7/11	157				
10/8/11	150				
10/9/11	229				
10/10/11	168				
10/11/11	173				
10/12/11	175				
10/13/11	138				
10/14/11	150				
10/15/11	128				
10/16/11	128				
10/17/11	145				
10/18/11	162				
10/19/11	205				
10/20/11	117				
10/21/11	135				
10/22/11	134				
10/23/11	134				
10/24/11	136				
10/25/11	118				
10/26/11	127				
10/27/11	124				
10/28/11	121				
10/29/11	114				
10/30/11	103				
10/31/11	168				
11/1/11	121				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
11/2/11	129				
11/3/11	124	2.59	98%		
11/4/11	132				
11/5/11	102				
11/6/11	115				
11/7/11	127				
11/8/11	137				
11/9/11	124				
11/10/11	129				
11/11/11	671*				
11/12/11	154				
11/13/11	93.7				
11/14/11	114				
11/15/11	150				
11/16/11	135				
11/17/11	118				
11/19/11	221				
11/20/11	102				
11/21/11	105				
11/22/11	99.2				
11/23/11	111				
11/24/11	114				
11/25/11	120				
11/26/11	147				
11/27/11	81.6				
11/28/11	103				
11/29/11	113				
11/30/11	98.7				
12/1/11	104				
12/2/11	109				
12/3/11	101				
12/4/11	114				
12/5/11	123	4.46	96%		
12/6/11	110				
12/7/11	114				
12/8/11	129				
12/9/11	124				
12/10/11	109				
12/11/11	109				
12/12/11	106				
12/13/11	120				
12/14/11	99.9				
12/15/11	123				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
12/16/11	124				
12/17/11	113				
12/18/11	108				
12/19/11	111				
12/20/11	109				
12/21/11	114				
12/22/11	139				
12/23/11	140				
12/24/11	126				
12/25/11	109				
12/26/11	113				
12/27/11	127				
12/28/11	122				
12/29/11	126				
12/30/11	128				
1/1/2012	109				
1/2/2012	102				
1/3/2012	113				
1/4/2012	112	6.16	95%		
1/5/2012	120				
1/6/2012	115				
1/7/2012	167				
1/8/2012	128				
1/9/2012	241*				
1/10/2012	128				
1/11/2012	127				
1/12/2012	141				
1/13/2012	134				
1/14/2012	113				
1/15/2012	114				
1/16/2012	134				
1/17/2012	121				
1/18/2012	130				
1/19/2012	133				
1/20/2012	123				
1/21/2012	123				
1/22/2012	119				
1/23/2012	149				
1/24/2012	143				
1/25/2012	167				
1/26/2012	129				
1/27/2012	136				
1/28/2012	126				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
1/29/2012	109				
1/30/2012	125				
1/31/2012	107				
2/1/2012	118				
2/2/2012	111				
2/3/2012	127				
2/4/2012	130				
2/5/2012	116				
2/6/2012	124	3.15	97%		
2/7/2012	134				
2/8/2012	142				
2/9/2012	136				
2/10/2012	121				
2/11/2012	129				
2/12/2012	116				
2/13/2012	114				
2/14/2012	130				
2/15/2012	145				
2/16/2012	125				
2/17/2012	138				
2/18/2012	130				
2/19/2012	148				
2/20/2012	129				
2/21/2012	127				
2/22/2012	132				
2/23/2012	113				
2/24/2012	112				
2/25/2012	111				
2/26/2012	178				
2/27/2012	116				
2/28/2012	119				
2/29/2012	127				
3/1/2012	160	4.21	97%		
3/2/2012	134				
3/3/2012	126				
3/4/2012	127				
3/5/2012	155				
3/6/2012	129				
3/7/2012	147				
3/8/2012	126				
3/9/2012	121				
3/10/2012	134				
3/11/2012	118				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
3/12/2012	133				
3/13/2012	117				
3/14/2012	127				
3/15/2012	126				
3/16/2012	107	3.63	97%		
3/17/2012	107	3.44	97%		
3/18/2012	110				
3/19/2012	119				
3/20/2012	123				
3/21/2012	211				
3/22/2012	128				
3/23/2012	122				
3/24/2012	116				
3/25/2012	112				
3/26/2012	122				
3/27/2012	149				
3/28/2012	135				
3/29/2012	136				
3/30/2012	123				
3/31/2012	528*				
4/1/2012	114				
4/2/2012	114				
4/3/2012	117				
4/4/2012	125				
4/5/2012	168	3.33	98%		
4/6/2012	137				
4/7/2012	129				
4/8/2012	106				
4/9/2012	131				
4/10/2012	130				
4/11/2012	121				
4/12/2012	116				
4/13/2012	119				
4/14/2012	112				
4/15/2012	106				
4/16/2012	114				
4/17/2012	177				
4/18/2012	121				
4/19/2012	133				
4/20/2012	118				
4/21/2012	143				
4/22/2012	105				
4/23/2012	114				

Table B-6: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Copper

Date	Influent (µg/L)	Copper Final Effluent (µg/L)	Copper Percent Removal	Percent Removal in Order	Rank
4/24/2012	134				
4/25/2012	127				
4/26/2012	118				
4/27/2012	109				
4/28/2012	108				
4/29/2012	108				
4/30/2012	107				
5/1/2012	128	3.65	97%		
6/1/2012	451*	2.28			

*Asterisks indicate influent data removed due to being above 2 standard deviations or 234 µg/L; therefore, considered outliers.

<u>**Copper Removal Rate Calculations**</u>

Total Number of Samples	86
Median =	98%
ADRE =	**98%**
MRE =	**98%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 79*(0.3) =	26
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**97%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**234**
Average Raw Sewage (µg/L) =	**134**
Maximum Final Effluent (µg/L) =	**6.16**
Average Final Effluent (µg/L) =	**3.05**

Table B-7: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cyanide

Date	Cyanide Influent (µg/L)	Cyanide Final Effluent (µg/L)	Cyanide Percent Removal	Percent Removal in Order	Rank
1/3/08	1.5	1.8	-20%	-1650%	1
2/4/08	1.1	2.828	-157%	-700%	2
3/4/08	0.0	2		-664%	3
3/25/08	1.0	3	-200%	-622%	4
4/3/08	1.2	2.556	-113%	-532%	5
5/5/08	3.0*	3.355		-500%	6
6/3/08	0.5	3.16	-532%	-500%	7
7/2/08	0.5	2.115	-323%	-500%	8
8/5/08	1.0	2.606	-161%	-500%	9
9/3/08	0.5	2.795	-459%	-483%	10
10/7/08	1.4	2.64	-89%	-467%	11
11/4/08	0.5	2.26	-352%	-460%	12
12/3/08	0.5	2.725	-445%	-459%	13
1/6/09	1.8	2.56	-42%	-445%	14
2/4/09	0.5	2.835	-467%	-440%	15
3/3/09	1.0	2.193	-119%	-440%	16
4/7/09	2.4*	3.11		-439%	17
5/4/09	0.5	2.445	-389%	-413%	18
6/1/09	0.5	2.7	-440%	-404%	19
7/8/09	0.5	2.695	-439%	-389%	20
7/11/09	0.5	3	-500%	-380%	21
7/12/09	0.5	3	-500%	-380%	22
7/13/09	0.5	3	-500%	-376%	23
7/14/09	0.5	3	-500%	-352%	24
8/5/09	0.5	2.565	-413%	-323%	25
9/1/09	1.0	2	-100%	-300%	26
10/5/09	0.5	2.38	-376%	-300%	27
11/5/09	0.5	2	-300%	-280%	28
12/2/09	0.5	2.52	-404%	-275%	29
1/5/10	1.2	2.7	-125%	-225%	30
2/3/10	0.5	2.8	-460%	-213%	31
3/1/10	0.5	2.4	-380%	-200%	32
4/5/10	0.2	3.5	-1650%	-200%	33
5/6/10	1.7	3	-76%	-200%	34
6/2/10	0.8	2.3	-188%	-200%	35
7/8/10	0.8	2.5	-213%	-188%	36
8/2/10	0.7	2.1	-200%	-183%	37
9/1/10	0.8	2.2	-175%	-178%	38
10/5/10	0.9	2.7	-200%	-175%	39
11/3/10	0.5	2.4	-380%	-175%	40
12/2/10	1.0	2	-100%	-175%	41
1/6/11	0.6	3.5	-483%	-171%	42
2/2/11	0.5	2.7	-440%	-161%	43

Table B-7: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Cyanide

Date	Cyanide Influent (µg/L)	Cyanide Final Effluent (µg/L)	Cyanide Percent Removal	Percent Removal in Order	Rank
3/1/11	1.0	2	-100%	-157%	44
3/21/11	0.5			-133%	45
3/29/11	0.4	1.3	-225%	-125%	46
4/4/11	0.2			-123%	47
5/3/11	0.9	2.1	-133%	-119%	48
6/1/11	0.7	1.9	-171%	-113%	49
7/6/11	0.9	6.5	-622%	-100%	50
7/31/11		1.7		-100%	51
8/1/11	0.6	1.8	-200%	-100%	52
9/1/11	0.7	1.495	-123%	-89%	53
10/3/11	0.2	1.6	-700%	-76%	54
11/3/11	0.8	2.2	-175%	-46%	55
12/5/11	1.4	1.8	-29%	-42%	56
1/4/12	1.3	1.9	-46%	-35%	57
2/6/12	0.9	2.5	-178%	-29%	58
3/1/12	1.1	8.4	-664%	-20%	59
3/13/12		2.1			
3/14/12	0.6	1.7	-183%		
3/15/12	0.5	1.9	-280%		
3/16/12	0.8	2.2	-175%		
4/5/12	1.7	2.3	-35%		
5/1/12	0.4	1.5	-275%		
6/1/12	0.5	2	-300%		

*Asterisks indicate influent data removed due to being above 3 standard deviations or 2.3 µg/L; therefore, considered outliers.

<u>**Cyanide Removal Rate Calculations**</u>

Total Number of Samples	59
Median =	-225%
ADRE =	**-305%**
MRE =	**-242%**

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 59*(0.3) =	18
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**-413%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**1.8**
Average Raw Sewage (µg/L) =	**0.75**
Maximum Final Effluent (µg/L) =	**8.4**
Average Final Effluent (µg/L) =	**2.6**

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
1/3/08	12.2	0.86	93%	82%	1
2/4/08	5.44	0.67	88%	82%	2
3/25/08	5.52	0.99	82%	82%	3
4/3/08	5.99	0.76	87%	83%	4
5/5/08	3.91	0.15	96%	87%	5
6/3/08	4.73	0.35	93%	87%	6
7/2/08	5.51	0.28	95%	88%	7
8/5/08	4	0.42	90%	88%	8
9/3/08	4.24	0.7	83%	88%	9
10/7/08	12.6	1	92%	89%	10
11/4/08	*19.9	0.41		89%	11
12/3/08	7.7	0.45	94%	89%	12
1/6/09	4.48	0.22	95%	90%	13
2/4/09	4.81	0.52	89%	90%	14
3/3/09	5.81	0.58	90%	90%	15
4/7/09	10.9	0.39	96%	90%	16
5/4/09	3.41	0.24	93%	90%	17
6/1/09	3.77	0.17	95%	90%	18
7/8/09	4.32	0.46	89%	90%	19
7/11/09	3.7	0.1	97%	91%	20
7/12/09	2.8	0.1	96%	91%	21
7/13/09	5	0.1	98%	91%	22
7/14/09	4.8	0.48	90%	91%	23
8/5/09	5.78	0.46	92%	91%	24
8/23/09		0.18		91%	25
8/24/09		0.17		91%	26
8/25/09		0.2		92%	27
8/26/09		0.21		92%	28
8/27/09		0.13		92%	29
8/28/09		0.16		92%	30
8/29/09		0.12		92%	31
9/1/09	6.08	0.2	97%	92%	32
10/5/09	3.51	0.13	96%	92%	33
11/5/09	6.12	0.22	96%	92%	34
12/1/09		0.26		92%	35
12/2/09	4.15	0.29	93%	92%	36
12/3/09		0.34		93%	37
12/4/09		0.23		93%	38
12/5/09		0.24		93%	39
12/6/09		0.18		93%	40
12/7/09		0.19		93%	41
12/8/09		0.22		93%	42
12/9/09		0.29		93%	43
12/10/09		0.24		93%	44

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
12/11/09		0.22		93%	45
12/12/09		0.28		93%	46
12/13/09		0.32		93%	47
12/14/09		0.2		93%	48
12/15/09		0.26		93%	49
1/5/10	3.34	0.26	92%	93%	50
2/3/10	4.62	0.25	95%	94%	51
2/21/10		0.15		94%	52
2/22/10		0.15		94%	53
2/23/10		0.62		94%	54
2/24/10		0.45		94%	55
2/25/10		0.29		94%	56
2/26/10		0.22		95%	57
2/27/10		0.2		95%	58
3/1/10	3.68	0.23	94%	95%	59
4/5/10	4.37	0.13	97%	95%	60
5/6/10	12.1	0.2	98%	95%	61
6/2/10	4.45	0.4	91%	95%	62
7/8/10	4.61	0.34	93%	95%	63
8/2/10	6.84	0.17	98%	96%	64
9/1/10	6.57	0.31	95%	96%	65
9/13/10		0.45		96%	66
9/14/10		0.62		96%	67
9/15/10		0.52		96%	68
9/16/10		0.54		96%	69
10/5/10	5.41	0.73	87%	96%	70
11/3/10	4.86	0.33	93%	96%	71
12/2/10	7.5	0.42	94%	96%	72
1/6/11	3.88	0.36	91%	96%	73
2/2/11	3.2	0.28	91%	96%	74
3/1/11	4.32	0.3	93%	96%	75
4/4/11	5.46	0.42	92%	97%	76
5/3/11	4.67	0.48	90%	97%	77
5/8/11	4.68	0.2	96%	97%	78
5/9/11	6.02	0.26	96%	97%	79
5/10/11	4.31	0.41	90%	97%	80
5/11/11	4.4	0.23	95%	97%	81
5/12/11	5.84	0.25	96%	97%	82
5/13/11	9.07	0.22	98%	98%	83
5/14/11	3.21	0.26	92%	98%	84
5/15/11	6.38	0.29	95%	98%	85
5/16/11	3.75	0.34	91%	98%	86
5/17/11	3.63	0.26	93%	98%	87
5/18/11	3.52	0.24	93%	98%	88

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
5/19/11	3.16	0.26	92%		
5/20/11	7.74	0.23	97%		
5/21/11	3.37	0.22	93%		
5/22/11	2.56	0.2	92%		
5/23/11	3.35	0.21	94%		
5/24/11	3.69	0.46	88%		
5/25/11	3.51	0.37	89%		
5/26/11	4.16	0.31	93%		
5/27/11	3.57	0.27	92%		
5/28/11	7.98	0.34	96%		
5/29/11	3.67	0.45	88%		
5/30/11	4.23	0.25	94%		
5/31/11	4.23	0.28	93%		
6/1/11	3.33	0.3	91%		
6/2/11	3.25	0.25	92%		
6/3/11	3.91	0.26	93%		
6/4/11	3.28	0.58	82%		
6/5/11	2.58	0.17	93%		
6/6/11	4.22				
6/7/11	4.41				
6/8/11	5.59				
6/9/11	3.16				
6/10/11	3.98				
6/11/11	2.98				
6/12/11	3.39				
6/13/11	3.29				
6/14/11	3.93				
6/15/11	4.36				
6/16/11	3.79				
6/17/11	*17.8				
6/18/11	2.76				
6/19/11	3.14				
6/20/11	3.88				
6/21/11	3.36				
6/23/11	3.67				
6/24/11	5.3				
6/25/11	5.42				
6/26/11	4.36				
6/27/11	5.73				
6/28/11	4.53				
6/29/11	3.24				
7/1/11	8.78				
7/2/11	3.82				
7/3/11	3.98				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
7/4/11	4.6				
7/5/11	4.03				
7/6/11	4.13	0.35	92%		
7/7/11	5.9				
7/8/11	6.36				
7/9/11	3.71				
7/10/11	3.77				
7/11/11	4.07	0.1	98%		
7/12/11	4.97	0.1	98%		
7/13/11	3.51	0.1	97%		
7/14/11	4.29				
7/15/11	3.81				
7/16/11	3.64				
7/17/11	4.66				
7/18/11	7				
7/19/11	7.63				
7/20/11	11.6				
7/21/11	3.51				
7/22/11	4.31				
7/23/11	4.47				
7/24/11	9.48				
7/25/11	5.68				
7/26/11	5.96				
7/27/11	4.24				
7/28/11	13.6				
7/29/11	2.87				
7/30/11	2.41				
7/31/11	5.65				
8/1/11	*16.1	0.21			
8/2/11	7.6				
8/3/11	8.27				
8/4/11	8.27				
8/5/11	2.93				
8/6/11	2.52				
8/7/11	7.68				
8/8/11	5.08				
8/9/11	4.89				
8/10/11	7.42				
8/11/11	3.2				
8/12/11	7.41				
8/13/11	2.63				
8/14/11	10.6				
8/15/11	*23.6				
8/16/11	7.56				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
8/17/11	5.43				
8/18/11	2.95				
8/19/11	9.09				
8/20/11	3.53				
8/21/11	5.27				
8/22/11	10.5				
8/23/11	8.73				
8/24/11	5.55				
8/25/11	5.87				
8/26/11	3.54				
8/27/11	13.4				
8/28/11	2.76				
8/29/11	2.94				
8/30/11	9.46				
8/31/11	*39.7				
9/1/11	4.41	0.14	97%		
9/2/11	3.71				
9/3/11	2.85				
9/4/11	2.99				
9/5/11	5.4				
9/6/11	3.47				
9/7/11	9.79				
9/8/11	6.53				
9/9/11	5.13				
9/10/11	2.7				
9/11/11	7.79				
9/12/11	3.28				
9/13/11	3.11				
9/14/11	2.55				
9/15/11	3.44				
9/16/11	2.8				
9/17/11	3.01				
9/18/11	2.37				
9/19/11	6.93				
9/20/11	3.05				
9/21/11	3.59				
9/22/11	3				
9/23/11	3.32				
9/24/11	2.21				
9/25/11	4.05				
9/26/11	6.42				
9/27/11	3.41				
9/28/11	3.57				
9/29/11	3.24				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
9/30/11	3.51				
10/1/11	3.39				
10/2/11	3.85				
10/3/11	3.54	0.13	96%		
10/4/11	3.42				
10/5/11	4.81				
10/6/11	12.7				
10/7/11	3.28				
10/8/11	3.25				
10/9/11	4.08				
10/10/11	8.07				
10/11/11	6.15				
10/12/11	5.21				
10/13/11	5.12				
10/14/11	5.34				
10/15/11	2.57				
10/16/11	3.44				
10/17/11	3.82				
10/18/11	4.01				
10/19/11	3.95				
10/20/11	3.45				
10/21/11	3.94				
10/22/11	3.53				
10/23/11	3.19				
10/24/11	9.26				
10/25/11	2.82				
10/26/11	5.95				
10/27/11	2.99				
10/28/11	3.31				
10/29/11	2.56				
10/30/11	2.46				
10/31/11	3.21				
11/1/11	3.47				
11/2/11	3.28				
11/3/11	2.79	0.26	91%		
11/4/11	2.85				
11/5/11	2.98				
11/6/11	3.81				
11/7/11	3.73				
11/8/11	*21.2				
11/9/11	3.04				
11/10/11	7.68				
11/11/11	*18.9				
11/12/11	8.27				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
11/13/11	4.93				
11/14/11	4.13				
11/15/11	3.98				
11/16/11	3.8				
11/17/11	3.7				
11/18/11	11				
11/19/11	4.78				
11/20/11	2.78				
11/21/11	2.77				
11/22/11	2.77				
11/23/11	7.12				
11/24/11	5.93				
11/25/11	2.59				
11/26/11	4.56				
11/27/11	2.4				
11/28/11	3.46				
11/29/11	3.38				
11/30/11	3				
12/1/11	3.62				
12/2/11	3.62				
12/3/11	2.42				
12/4/11	7.51				
12/5/11	3.16	0.18	94%		
12/6/11	3.56				
12/7/11	10.6				
12/8/11	3.13				
12/9/11	14.1				
12/10/11	2.47				
12/11/11	2.7				
12/12/11	11.4				
12/13/11	4.88				
12/14/11	8.03				
12/15/11	4.01				
12/16/11	5.25				
12/17/11	2.45				
12/18/11	2.28				
12/19/11	3.14				
12/20/11	2.31				
12/21/11	2.62				
12/22/11	3.07				
12/23/11	3.47				
12/24/11	7.96				
12/25/11	1.86				
12/26/11	2.32				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
12/27/11	7.55				
12/28/11	3.28				
12/29/11	11.9				
12/30/11	4.28				
1/1/2012	1.97				
1/2/2012	2.12				
1/3/2012	6.26				
1/4/2012	2.90	0.25	91%		
1/5/2012	3.13				
1/6/2012	3.19				
1/7/2012	3.36				
1/8/2012	3.12				
1/9/2012	5.30				
1/10/2012	3.52				
1/11/2012	4.34				
1/12/2012	12.2				
1/13/2012	5.28				
1/14/2012	3.44				
1/15/2012	3.31				
1/16/2012	2.94				
1/17/2012	5.72				
1/18/2012	3.27				
1/19/2012	4.37				
1/20/2012	9.55				
1/21/2012	4.25				
1/22/2012	2.94				
1/23/2012	9.50				
1/24/2012	3.97				
1/25/2012	7.19				
1/26/2012	5.82				
1/27/2012	6.23				
1/28/2012	3.70				
1/29/2012	3.64				
1/30/2012	4.01				
1/31/2012	4.14				
2/1/2012	7.05				
2/2/2012	3.48				
2/3/2012	3.72				
2/4/2012	14.3				
2/5/2012	14.3				
2/6/2012	2.90	0.53	82%		
2/7/2012	3.81				
2/8/2012	3.38				
2/9/2012	3.85				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (ug/L)	Lead Final Effluent (ug/L)	Lead Percent Removal	Percent Removal in Order	Rank
2/10/2012	8.12				
2/11/2012	3.41				
2/12/2012	2.94				
2/13/2012	4.23				
2/14/2012	4.13				
2/15/2012	4.76				
2/16/2012	3.57				
2/17/2012	4.73				
2/18/2012	2.72				
2/19/2012	3.50				
2/20/2012	2.66				
2/21/2012	4.29				
2/22/2012	4.19				
2/23/2012	7.73				
2/24/2012	2.61				
2/25/2012	3.76				
2/26/2012	2.36				
2/27/2012	4.38				
2/28/2012	10.2				
2/29/2012	2.99				
3/1/2012	7.29	0.27	96%		
3/2/2012	2.91				
3/3/2012	2.46				
3/4/2012	2.45				
3/5/2012	*18				
3/6/2012	13.3				
3/7/2012	3.75				
3/8/2012	6.20				
3/9/2012	3.61				
3/10/2012	3.16				
3/11/2012	2.55				
3/12/2012	3.70				
3/13/2012	13.9				
3/14/2012	3.77				
3/15/2012	2.57				
3/16/2012	*266000	0.89			
3/17/2012	4.47	0.46	90%		
3/18/2012	3.49				
3/19/2012	4.88				
3/20/2012	6.33				
3/21/2012	4.58				
3/22/2012	3.52				
3/23/2012	5.62				
3/24/2012	2.79				

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

Date	Lead Influent (μg/L)	Lead Final Effluent (μg/L)	Lead Percent Removal	Percent Removal in Order	Rank
3/25/2012	*16.9				
3/26/2012	3.26				
3/27/2012	5.44				
3/28/2012	4.00				
3/29/2012	3.89				
3/30/2012	3.58				
3/31/2012	9.86				
4/1/2012	9.71				
4/2/2012	4.35				
4/3/2012	3.39				
4/4/2012	3.33				
4/5/2012	4.59	0.48	90%		
4/6/2012	3.31				
4/7/2012	3.76				
4/8/2012	2.80				
4/9/2012	9.10				
4/10/2012	4.30				
4/11/2012	3.89				
4/12/2012	3.89				
4/13/2012	4.88				
4/14/2012	4.66				
4/15/2012	3.15				
4/16/2012	3.45				
4/17/2012	3.66				
4/18/2012	3.11				
4/19/2012	3.56				
4/20/2012	3.17				
4/21/2012	3.28				
4/22/2012	2.71				
4/23/2012	3.39				
4/24/2012	5.43				
4/25/2012	3.82				
4/26/2012	5.18				
4/27/2012	3.34				
4/28/2012	2.45				
4/29/2012	2.38				
4/30/2012	3.95				
5/1/2012	3.60	0.15	96%		
6/1/2012	8.04	0.26	97%		

*Asterisks indicate influent data removed due to being above 2.5 the standard deviations or 14.3 μg/L; therefore considered outliers.

Table B-8: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Lead

<u>Lead Removal Rate Calculations</u>	
Total Number of Samples	88
ADRE =	**93%**
MRE =	**93%**
To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 88*(0.3) =	26
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**91%**
<u>Maximum and Average Values</u>	
Maximum Raw Sewage (µg/L) =	**14.3**
Average Raw Sewage (µg/L) =	**4.8**
Maximum Final Effluent (µg/L) =	**1.00**
Average Final Effluent (µg/L) =	**0.32**

Table B-9: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Mercury

Date	Mercury Influent (µg/L)	Mercury Final Effluent (µg/L)	Mercury Percent Removal	Percent Removal in Order	Rank
1/3/08	0.487	0.00318	99.3%	96.5%	1
2/4/08	0.114	0.00296	97.4%	96.5%	2
2/14/08	0.069	NA.		96.8%	3
3/4/08	NA.	0.00237		97.4%	4
3/25/08	0.341	0.00196	99.4%	97.8%	2
4/3/08	0.243	0.00165	99.3%	97.9%	1
5/5/08	0.199	0.00213	98.9%	98.1%	7
6/3/08	0.238	0.00219	99.1%	98.2%	8
7/2/08	0.293	0.002	99.3%	98.3%	9
8/5/08	0.207	0.00174	99.2%	98.4%	10
9/3/08	0.314	0.00208	99.3%	98.5%	11
10/7/08	0.0871	0.00307	96.5%	98.5%	12
11/4/08	0.681*	0.00177		98.5%	13
12/3/08	0.381	0.00191	99.5%	98.6%	14
1/6/09	0.0895	0.0016	98.2%	98.6%	15
2/4/09	0.140	0.00232	98.3%	98.7%	16
2/24/09	NA.	0.00201		98.7%	17
2/25/09	NA.	0.00239		98.7%	18
2/26/09	NA.	0.00229		98.7%	19
3/3/09	0.195	0.00262	98.7%	98.8%	20
4/7/09	0.141	0.00297	97.9%	98.8%	21
5/4/09	0.222	0.00226	99.0%	98.9%	22
6/1/09	0.168	0.00238	98.6%	98.9%	23
7/8/09	0.155	0.00239	98.5%	98.9%	24
8/5/09	0.104	0.00147	98.6%	98.9%	25
9/1/09	0.138	0.00222	98.4%	99.0%	26
10/5/09	0.331	0.00163	99.5%	99.0%	27
11/5/09	0.187	0.00151	99.2%	99.1%	28
12/2/09	0.1130	0.0014	98.8%	99.1%	29
1/5/10	0.170	0.00178	99.0%	99.1%	30
2/3/10	0.183	0.00156	99.1%	99.1%	31
3/1/10	0.250	0.00159	99.4%	99.1%	32
4/5/10	0.120	0.0027	97.8%	99.1%	33
5/6/10	0.190	0.002	98.9%	99.2%	34
6/2/10	0.212	0.00146	99.3%	99.2%	35
7/8/10	0.193	0.00124	99.4%	99.2%	36
8/2/10	0.169	0.00147	99.1%	99.2%	37
9/1/10	0.193	0.00111	99.4%	99.3%	38
10/5/10	0.242	0.00126	99.5%	99.3%	39
11/3/10	0.490	0.00142	99.7%	99.3%	40
12/2/10	0.460	0.00141	99.7%	99.3%	41
1/6/11	0.158	0.0015	99.1%	99.3%	42
2/2/11	0.174	0.00143	99.2%	99.3%	43

Table B-9: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Mercury

Date	Mercury Influent (µg/L)	Mercury Final Effluent (µg/L)	Mercury Percent Removal	Percent Removal in Order	Rank
3/1/11	0.158	0.0015	99.1%	99.4%	44
4/4/11	0.118	0.00151	98.7%	99.4%	45
5/3/11	0.184	0.00174	99.1%	99.4%	46
6/1/11	0.128	0.00153	98.8%	99.4%	47
7/6/11	0.137	0.00476	96.5%	99.4%	48
8/1/11	0.0681	0.00102	98.5%	99.5%	49
9/1/11	0.0919	0.00116	98.7%	99.5%	50
10/3/11	0.100	0.00115	98.9%	99.5%	51
11/3/11	0.205	0.00117	99.4%	99.7%	52
12/5/11	0.0717	0.001395	98.1%	99.7%	53
1/4/12	0.184	0.00149	99.2%		
2/6/12	0.101	0.00147	98.5%		
3/1/12	0.087	0.00275	96.8%		
4/5/12	0.0937	0.00124	98.7%		
5/1/12	0.173	0.00117	99.3%		
6/1/12	0.114	0.00127	98.9%		

*Asterisks indicate influent data removed due to being above 2.42 standard deviations or 0.490 µg/L; therefore, considered outliers.

<u>Mercury Removal Rate Calculations</u>

Total Number of Samples	53
Median =	99%
ADRE =	**99%**
MRE =	99%

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 49*(0.3) =	16
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**99%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (µg/L) =	**0.490**
Average Raw Sewage (µg/L) =	**0.188**
Maximum Final Effluent (µg/L) =	**0.0048**
Average Final Effluent (µg/L) =	**0.0019**

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
1/1/08	7.31	7.48	-2%	-5%	1
1/3/08	8.37	5.31	58%	-2%	2
1/8/08	7.96	7.08	12%	12%	3
1/15/08	8.37	6.15	36%	16%	4
1/22/08	7.04	5.76	22%	17%	5
1/29/08	9.42	6.61	43%	21%	6
2/4/08	6.97			22%	7
2/4/08	9.25	4.58	102%	22%	8
3/25/08	10.5	6.95	51%	27%	9
4/3/08	10.3	7.88	31%	28%	10
5/5/08	9.34	5.23	79%	28%	11
6/3/08	8.63	5.27	64%	31%	12
7/2/08	9.33	5.73	63%	31%	13
8/5/08	10.9	5.71	91%	32%	14
9/3/08	10.6	6.54	62%	34%	15
10/7/08	9.67	7.04	37%	34%	16
11/4/08	31*	22.1		34%	17
12/3/08	8.97	5	79%	34%	18
1/6/09	7.73	6.07	27%	36%	19
2/4/09	7.81	4.91	59%	37%	20
3/3/09	8.51	6.18	38%	38%	21
4/7/09	8.5	5.08	67%	39%	22
5/4/09	8.63	4.58	88%	40%	23
6/1/09	7.58	4.2	80%	40%	24
7/8/09	9.46	5.98	58%	40%	25
7/14/09		7.42		41%	26
8/5/09	9.22	6.14	50%	42%	27
8/23/09		6.38		43%	28
8/24/09		5.43		43%	29
8/25/09		5.72		44%	30
8/26/09		6.39		44%	31
8/27/09		6.23		46%	32
8/28/09		7.4		46%	33
8/29/09		8.19		47%	34
9/1/09	10.4	6.27	66%	47%	35
10/5/09	7.76	4.48	73%	48%	36
11/5/09	8.92	5.71	56%	49%	37
12/1/09		4.17		50%	38
12/2/09	7.78	4.71	65%	51%	39
12/3/09		4.46		51%	40
12/4/09		4.26		53%	41
12/5/09		4.42		54%	42
12/6/09		3.61		55%	43

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
12/7/09		3.51		55%	44
12/8/09		4.12		56%	45
12/9/09		4.56		56%	46
12/10/09		4.54		57%	47
12/11/09		4.44		57%	48
12/12/09		4.48		58%	49
12/13/09		3.79		58%	50
12/14/09		3.94		58%	51
12/15/09		4.78		58%	52
1/5/10	6.78	4.3	58%	58%	53
2/3/10	13.4	8.91	34%	58%	54
2/21/10		4.72		59%	55
2/22/10		4.38		60%	56
2/23/10		4.85		60%	57
2/24/10		5.06		61%	58
2/25/10		5.28		62%	59
2/26/10		5.45		62%	60
2/27/10		5.3		63%	61
3/1/10	6.93	4.75	46%	63%	62
4/5/10	5.99	3.67	63%	63%	63
5/6/10	7.5	5.88	28%	64%	64
6/2/10	7.59	5.3	43%	65%	65
7/8/10	9.7	6.74	44%	65%	66
8/2/10	8.36	5.41	55%	66%	67
9/1/10	8.34	5.29	58%	66%	68
9/13/10		4.34		67%	69
9/14/10		4.87		67%	70
9/15/10		5.27		67%	71
9/16/10		5.18		73%	72
10/3/10	6.92			75%	73
10/4/10	6.46			76%	74
10/5/10	9.81	4.96	98%	76%	75
10/6/10	7.04			79%	76
10/7/10	6.69			79%	77
10/8/10	7.1			80%	78
10/9/10	7.32			80%	79
10/10/10	5.83			80%	80
10/11/10	8.13			82%	81
10/12/10	7.37			84%	82
10/13/10	8.56			88%	83
10/14/10	7.65			88%	84
10/15/10	8.27			91%	85
10/16/10	6.13			95%	86

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
10/17/10	5.63			98%	87
11/3/10	12.7	6.48	49%	102%	88
12/2/10	8.75	4.87	80%	112%	89
1/6/11	7.25	4.97	46%	134%	90
2/2/11	7.28	4.6	58%		
3/1/11	7.19	4.49	60%		
4/4/11	6.35	4.05	57%		
5/3/11	7.39	5.2	42%		
5/8/11	6.33	4.94	28%		
5/9/11	7.78	4.23	84%		
5/10/11	9.71	4.97	95%		
5/11/11	7.77	6.63	17%		
5/12/11	9	5.43	66%		
5/13/11	10.9	5.8	88%		
5/14/11	7.72	6.65	16%		
5/15/11	8.38	5.16	62%		
5/16/11	6.86	4.3	60%		
5/17/11	7.05	4.56	55%		
5/18/11	7.46	4.53	65%		
5/19/11	6.59	4.68	41%		
5/20/11	7.71	5.04	53%		
5/21/11	7.53	4.84	56%		
5/22/11	6.28	4.77	32%		
5/23/11	7.6	4.31	76%		
5/24/11	10	4.72	112%		
5/25/11	9.01	6.42	40%		
5/26/11	7.99	5.97	34%		
5/27/11	8.41	5.74	47%		
5/28/11	8.23	5.73	44%		
5/29/11	6.8	5.07	34%		
5/30/11	6.84	4.89	40%		
5/31/11	7.95	4.42	80%		
6/1/11	7.19	4.67	54%		
6/2/11	7.05	4.76	48%		
6/3/11	7.44	4.61	61%		
6/4/11	7.93	4.76	67%		
6/5/11	6.22	4.43	40%		
6/6/11	8.57				
6/7/11	9.62				
6/8/11	10.6				
6/9/11	7.77				
6/10/11	9.16				
6/11/11	8.52				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
6/12/11	7.71				
6/13/11	7.8				
6/14/11	8.28				
6/15/11	9.31				
6/16/11	9.58				
6/17/11	9.04				
6/18/11	7.71				
6/19/11	7.36				
6/20/11	9.49				
6/21/11	9.36				
6/23/11	8.86				
6/24/11	9.17				
6/25/11	6.43				
6/26/11	8.13				
6/27/11	8.68				
6/28/11	13.9*				
6/29/11	12.8				
6/30/11	9.55				
7/1/11	12.1				
7/2/11	10.5				
7/3/11	8.84				
7/4/11	10.2				
7/5/11	10.2				
7/6/11	8.38	6.92	21%		
7/7/11	8				
7/8/11	7.49				
7/9/11	5.6				
7/10/11	5.79				
7/11/11	9.39				
7/12/11	10.7				
7/13/11	12.7				
7/14/11	8.5				
7/15/11	6.94				
7/16/11	7.12				
7/17/11	6.89				
7/18/11	6.58				
7/19/11	6.88				
7/20/11	7.32				
7/21/11	7.12				
7/22/11	7.16				
7/23/11	6.41				
7/24/11	5.84				
7/25/11	7.15				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
7/26/11	8.58				
7/27/11	6.93				
7/28/11	8.86				
7/29/11	8.67				
7/30/11	6.92				
7/31/11	6.5				
8/1/11	8.38	4.61	82%		
8/2/11	8.28				
8/3/11	11.9				
8/4/11	11.1				
8/5/11	6.91				
8/6/11	8.18				
8/7/11	9.1				
8/8/11	8.45				
8/9/11	8.34				
8/10/11	9.34				
8/11/11	8.62				
8/12/11	8.4				
8/13/11	7.32				
8/14/11	7.64				
8/15/11	7.75				
8/16/11	8.31				
8/17/11	9.15				
8/18/11	7.22				
8/19/11	6.72				
8/20/11	7.46				
8/21/11	12.6				
8/22/11	9.48				
8/23/11	9.43				
8/24/11	12.6				
8/25/11	11				
8/26/11	8.46				
8/27/11	7.23				
8/28/11	6.82				
8/29/11	7.38				
8/30/11	8.5				
8/31/11	10.3				
9/1/11	8.38	5.34	57%		
9/2/11	8.85				
9/3/11	8.05				
9/4/11	7.05				
9/5/11	6.62				
9/6/11	8.48				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
9/7/11	8.85				
9/8/11	8.58				
9/9/11	11.5				
9/10/11	6.64				
9/11/11	8.34				
9/12/11	9.3				
9/13/11	7.68				
9/14/11	8.1				
9/15/11	8.65				
9/16/11	7.72				
9/17/11	7.19				
9/18/11	5.6				
9/19/11	7.18				
9/20/11	7.73				
9/21/11	7.98				
9/22/11	7.06				
9/23/11	7.35				
9/24/11	6.92				
9/25/11	5.62				
9/26/11	6.28				
9/27/11	6.57				
9/28/11	7.24				
9/29/11	8.29				
9/30/11	7.06				
10/1/11	6.15				
10/2/11	5.78				
10/3/11	6.3	3.77	67%		
10/4/11	6.63				
10/5/11	6.68				
10/6/11	5.93				
10/7/11	8.4				
10/8/11	11.7				
10/9/11	5.99				
10/10/11	6.13				
10/11/11	6.29				
10/12/11	7.18				
10/13/11	9.85				
10/14/11	7.79				
10/15/11	7.46				
10/16/11	7.6				
10/17/11	7.82				
10/18/11	8.29				
10/19/11	7.77				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
10/20/11	7.2				
10/21/11	7.91				
10/22/11	6.51				
10/23/11	6.3				
10/24/11	7.68				
10/25/11	7.17				
10/26/11	6.7				
10/27/11	6.82				
10/28/11	6.61				
10/29/11	5.61				
10/30/11	5.22				
10/31/11	6.23				
11/1/11	7.22				
11/2/11	8.16				
11/3/11	6.63	5.06	31%		
11/4/11	7.39				
11/5/11	5.77				
11/6/11	5.33				
11/7/11	6.4				
11/8/11	6.95				
11/9/11	7.3				
11/10/11	6.56				
11/11/11	7.26				
11/12/11	6.18				
11/13/11	4.75				
11/14/11	6.37				
11/15/11	7.19				
11/16/11	6.23				
11/17/11	5.81				
11/18/11	7.16				
11/19/11	5.79				
11/20/11	5.65				
11/21/11	5.78				
11/22/11	5.75				
11/23/11	5.57				
11/24/11	5.11				
11/25/11	4.92				
11/26/11	5.44				
11/27/11	4.67				
11/28/11	5.39				
11/29/11	5.27				
11/30/11	6.22				
12/1/11	6.02				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
12/2/11	6.58				
12/3/11	5.97				
12/4/11	5.33				
12/5/11	5.58	3.53	58%		
12/6/11	5.57				
12/7/11	5.77				
12/8/11	6.25				
12/9/11	6.13				
12/10/11	5.05				
12/11/11	4.78				
12/12/11	5.2				
12/13/11	6.05				
12/14/11	5.86				
12/15/11	5.94				
12/16/11	16.2*				
12/17/11	6.39				
12/18/11	5.43				
12/19/11	6.22				
12/20/11	6.06				
12/21/11	6.83				
12/22/11	8.38				
12/23/11	6.89				
12/24/11	5.27				
12/25/11	5.33				
12/26/11	5.02				
12/27/11	11.7				
12/28/11	6				
12/29/11	8.62				
12/30/11	10.5				
12/31/11	11.9				
1/1/12	12.4				
1/2/12	9.16				
1/3/12	9.19				
1/4/12	6.89	7.24	-5%		
1/5/12	7.04				
1/6/12	8.91				
1/7/12	8.89				
1/8/12	9.39				
1/9/12	8.39				
1/10/12	6.94				
1/11/12	6.73				
1/12/12	6.99				
1/13/12	7.07				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
1/14/12	6.58				
1/15/12	6.2				
1/16/12	6.24				
1/17/12	7.61				
1/18/12	6.8				
1/19/12	7.5				
1/20/12	7.14				
1/21/12	7.67				
1/22/12	5.77				
1/23/12	6.87				
1/24/12	12.5				
1/25/12	13.2				
1/26/12	9.42				
1/27/12	8.3				
1/28/12	10.3				
1/29/12	7.94				
1/30/12	7.05				
1/31/12	6.63				
2/1/12	6.5				
2/2/12	6.03				
2/3/12	7.02				
2/4/12	6.66				
2/5/12	5.86				
2/6/12	7.19	4.08	76%		
2/7/12	7.12				
2/8/12	7.09				
2/9/12	7.03				
2/10/12	6.43				
2/11/12	6.07				
2/12/12	5.67				
2/13/12	6.3				
2/14/12	6.62				
2/15/12	6.81				
2/16/12	6.33				
2/17/12	8.85				
2/18/12	6.04				
2/19/12	6.79				
2/20/12	6.61				
2/21/12	7.36				
2/22/12	8.64				
2/23/12	7.62				
2/24/12	7.44				
2/25/12	6.29				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
2/26/12	5.52				
2/27/12	5.84				
2/28/12	6.19				
2/29/12	6.99				
3/1/12	7.39	4.91	51%		
3/2/12	7.32				
3/3/12	6.47				
3/4/12	6.13				
3/5/12	8.25				
3/6/12	9.17				
3/7/12	7.96				
3/8/12	7.14				
3/9/12	7.35				
3/10/12	7.12				
3/11/12	6.03				
3/12/12	7.01				
3/13/12	7.5				
3/14/12	8.41				
3/15/12	7.13				
3/16/12	7.64	5.48	39%		
3/17/12	7.12	5.32	34%		
3/18/12	6.24				
3/19/12	6.89				
3/20/12	8.12				
3/21/12	8.89				
3/22/12	9.25				
3/23/12	7.24				
3/24/12	6.8				
3/25/12	6.25				
3/26/12	10	4.27	134%		
3/27/12	7.09	4.82	47%		
3/28/12	8.56				
3/29/12	8.15				
3/30/12	12.9				
3/31/12	11.2				
4/1/12	7.11				
4/2/12	7.87				
4/3/12	8.68				
4/4/12	7.31				
4/5/12	7.19	5.9	22%		
4/6/12	7.55				
4/7/12	6.4				
4/8/12	6.17				

Table B-10: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Molybdenum

Date	Molybdenum Influent (µg/L)	Molybdenum Final Effluent (µg/L)	Molybdenum Percent Removal	Percent Removal in Order	Rank
4/9/12	13				
4/10/12	9.26				
4/11/12	7.33				
4/12/12	7.14				
4/13/12	7.7				
4/14/12	7.74				
4/15/12	6.27				
4/16/12	7.69				
4/17/12	7.87				
4/18/12	8.2				
4/19/12	8.54				
4/20/12	8.37				
4/21/12	9.08				
4/22/12	7.35				
4/23/12	7.83				
4/24/12	8.54				
4/25/12	7.85				
4/26/12	7.09				
4/27/12	7.48				
4/28/12	6.16				
4/29/12	6.81				
4/30/12	7.4				
5/1/12	8.48	4.84	75%		
6/1/12	9.4	5.78	63%		

*Asterisks indicate influent data removed due to being above the 2.75 standard deviations or 13.4 µg/l; therefore, considered outliers.

<u>**Molybdenum Removal Rate Calculations**</u>

Total Number of Samples	90
Median =	56%
ADRE =	**55%**
MRE =	**30%**
To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 90*(0.3) =	27
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**42%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**13.4**
Average Raw Sewage (µg/L) =	**7.7**
Maximum Final Effluent (µg/L) =	**22.1**
Average Final Effluent (µg/L) =	**5.4**

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
1/1/08		4.37		5%	1
1/3/08	13.7	5.76	58%	16%	2
1/8/08		6.7		26%	3
1/15/08		6.12		27%	4
1/22/08		5.9		29%	5
1/29/08		4.83		29%	6
2/4/08	16.7	7.08	58%	32%	7
3/25/08	13.6	5.7	58%	33%	8
4/3/08	10.6	6.29	41%	34%	9
5/5/08	10	5.75	43%	34%	10
6/3/08	8.66	5.22	40%	36%	11
7/2/08	12.3	6.52	47%	36%	12
8/5/08	11.8	6.99	41%	37%	13
9/3/08	10.6	5.9	44%	37%	14
10/7/08	15	7	53%	37%	15
11/4/08	31.6*	5.57		37%	16
12/3/08	12.5	5.45	56%	38%	17
1/6/09	10.2	4.21	59%	38%	18
2/4/09	10.7	5.41	49%	38%	19
3/3/09	12.7	5.74	55%	39%	20
4/7/09	10.9	5.31	51%	40%	21
5/4/09	8.97	4.94	45%	40%	22
6/1/09	9.99	5.57	44%	40%	23
7/8/09	9.35	5.93	37%	40%	24
7/11/09	9.8	5.3	46%	41%	25
7/12/09	7.1	5.2	27%	41%	26
7/13/09	8.7	4.6	47%	41%	27
7/14/09	9.4	5.86	38%	41%	28
8/5/09	11.4	6.15	46%	41%	29
8/23/09		6.32		41%	30
8/24/09		5.18		41%	31
8/25/09		5.95		42%	32
8/26/09		6.24		42%	33
8/27/09		6.39		43%	34
8/28/09		6.91		43%	35
8/29/09		6.92		43%	36
9/1/09	14.3	7.45	48%	44%	37
10/5/09	18.1	5.58	69%	44%	38
11/5/09	11.8	5.39	54%	44%	39
12/1/09		5.27		44%	40
12/2/09	23.7*	7.18		44%	41
12/3/09		6.79		44%	42
12/4/09		6.36		44%	43
12/5/09		6.46		44%	44

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
12/6/09		5.24		45%	45
12/7/09		6.28		46%	46
12/8/09		7.71		46%	47
12/9/09		6.47		46%	48
12/10/09		6.74		46%	49
12/11/09		5.9		47%	50
12/12/09		5.94		47%	51
12/13/09		5.32		47%	52
12/14/09		5.25		47%	53
12/15/09		5.1		47%	54
1/5/10	23.6*	5.47		47%	55
2/3/10	13.6	9.17	33%	48%	56
2/21/10		6.39		48%	57
2/22/10		6.21		49%	58
2/23/10		6.77		50%	59
2/24/10		6.73		51%	60
2/25/10		7.02		51%	61
2/26/10		7.14		52%	62
2/27/10		6.14		52%	63
3/1/10	13.4	6.43	52%	52%	64
4/5/10	12.3	5.11	58%	53%	65
5/6/10	10.6	5.98	44%	53%	66
6/2/10	32.6*	7.77		53%	67
7/8/10	15	7.09	53%	53%	68
8/2/10	10.1	5.88	42%	54%	69
9/1/10	9.98	5.27	47%	54%	70
9/13/10		6.33		55%	71
9/14/10		6.71		56%	72
9/15/10		5.67		57%	73
9/16/10		5.73		57%	74
10/5/10	16.4	6.63	60%	57%	75
11/3/10	16.9	7.91	53%	58%	76
12/2/10	14.3	6.22	57%	58%	77
1/6/11	11.6	6.81	41%	58%	78
2/2/11	11.5	6.42	44%	58%	79
3/1/11	12.6	7	44%	59%	80
4/4/11	10.8	6.33	41%	59%	81
5/3/11	11.4	6.41	44%	60%	82
5/8/11	10.6	6.31	40%	68%	83
5/9/11	20.5	6.49	68%	69%	84
5/10/11	12.5	8.06	36%		
5/11/11	11.4	7.24	36%		
5/12/11	11.8	6.98	41%		
5/13/11	14.1	8.31	41%		

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
5/14/11	9.92	8.3	16%		
5/15/11	10.4	7.38	29%		
5/16/11	11	5.81	47%		
5/17/11	10.7	6.53	39%		
5/18/11	10.8	6.02	44%		
5/19/11	9.94	5.95	40%		
5/20/11	10.5	6.46	38%		
5/21/11	9.22	6.24	32%		
5/22/11	11.2	5.8	48%		
5/23/11	11.8	6.73	43%		
5/24/11	10.8	6.5	40%		
5/25/11	10.6	6.59	38%		
5/26/11	12.8	6.9	46%		
5/27/11	13	8.15	37%		
5/28/11	8.6	8.16	5%		
5/29/11	9.99	6.56	34%		
5/30/11	9.89	7.04	29%		
5/31/11	11.9	6.3	47%		
6/1/11	10.2	6.44	37%		
6/2/11	9.34	5.85	37%		
6/3/11	12.3	5.63	54%		
6/4/11	10	5.89	41%		
6/5/11	10.3	5.97	42%		
6/6/11	10.4				
6/7/11	36*				
6/8/11	18.6				
6/9/11	11				
6/10/11	12.9				
6/11/11	11.3				
6/12/11	10.5				
6/13/11	10.1				
6/14/11	12.1				
6/15/11	12.2				
6/16/11	10.4				
6/17/11	10.7				
6/18/11	10.8				
6/19/11	8.58				
6/20/11	22.2*				
6/21/11	12.1				
6/23/11	10.9				
6/24/11	13.1				
6/25/11	10.7				
6/26/11	9.44				
6/27/11	9.96				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
6/28/11	12.3				
6/29/11	11.9				
7/1/11	13.8				
7/2/11	10.3				
7/3/11	7.5				
7/4/11	8.91				
7/5/11	8.15				
7/6/11	9.57	4.47	53%		
7/7/11	8.94				
7/8/11	9.92				
7/9/11	7.96				
7/10/11	9.6				
7/11/11	11.9				
7/12/11	11.5				
7/13/11	13.2				
7/14/11	11.2				
7/15/11	13.9				
7/16/11	9.71				
7/17/11	9.31				
7/18/11	11.6				
7/19/11	9.18				
7/20/11	26.4*				
7/21/11	9.86				
7/22/11	8.99				
7/23/11	8.7				
7/24/11	7.27				
7/25/11	11.2				
7/26/11	8.98				
7/27/11	9.73				
7/28/11	9.71				
7/29/11	9.42				
7/30/11	8.32				
7/31/11	7.7				
8/1/11	11.5	4.94	57%		
8/2/11	10.3				
8/3/11	10.2				
8/4/11	11.1				
8/5/11	10.7				
8/6/11	9.85				
8/7/11	8.69				
8/8/11	11.6				
8/9/11	10.5				
8/10/11	11.7				
8/11/11	9.59				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
8/12/11	9.24				
8/13/11	8.32				
8/14/11	7.47				
8/15/11	10.2				
8/16/11	12.1				
8/17/11	11.4				
8/18/11	10				
8/19/11	9.25				
8/20/11	10.6				
8/21/11	11.4				
8/22/11	12.5				
8/23/11	12.4				
8/24/11	17.2				
8/25/11	10.1				
8/26/11	8.94				
8/27/11	7.96				
8/28/11	8.39				
8/29/11	8.23				
8/30/11	11.1				
8/31/11	10.7				
9/1/11	9.7	5.16	47%		
9/2/11	8.89				
9/3/11	9.77				
9/4/11	7.62				
9/5/11	8.6				
9/6/11	12.5				
9/7/11	10.3				
9/8/11	10.7				
9/9/11	13.3				
9/10/11	10.2				
9/11/11	9.87				
9/12/11	20.4				
9/13/11	9.43				
9/14/11	9.65				
9/15/11	11.3				
9/16/11	11.4				
9/17/11	10.8				
9/18/11	7.35				
9/19/11	10.8				
9/20/11	9.67				
9/21/11	9.64				
9/22/11	9.13				
9/23/11	9.67				
9/24/11	9.05				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
9/25/11	7.71				
9/26/11	9.63				
9/27/11	12.5				
9/28/11	16.7				
9/29/11	9.87				
9/30/11	18.4				
10/1/11	12.3				
10/2/11	8.46				
10/3/11	13.7	5.64	59%		
10/4/11	12.3				
10/5/11	10.4				
10/6/11	10.5				
10/7/11	10.4				
10/8/11	8.21				
10/9/11	13.1				
10/10/11	11.3				
10/11/11	9.62				
10/12/11	34.3*				
10/13/11	15.8				
10/14/11	10.9				
10/15/11	9.64				
10/16/11	8.88				
10/17/11	11				
10/18/11	11.8				
10/19/11	11.3				
10/20/11	11.3				
10/21/11	11.7				
10/22/11	12.9				
10/23/11	10.2				
10/24/11	10.6				
10/25/11	10.3				
10/26/11	10.5				
10/27/11	9.42				
10/28/11	25.1*				
10/29/11	8.76				
10/30/11	11.4				
10/31/11	10.7				
11/1/11	11.3				
11/2/11	11.4				
11/3/11	14.9	7.09	52%		
11/4/11	10.1				
11/5/11	10.1				
11/6/11	10.3				
11/7/11	24.1*				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
11/8/11	11.9				
11/9/11	13.7				
11/10/11	10.9				
11/11/11	12.8				
11/12/11	9.24				
11/13/11	7.3				
11/14/11	10.8				
11/15/11	10.2				
11/16/11	18.8				
11/17/11	13.2				
11/18/11	12.9				
11/19/11	11.4				
11/20/11	10.2				
11/21/11	12.8				
11/22/11	11.7				
11/23/11	10.9				
11/24/11	9.49				
11/25/11	6.69				
11/26/11	20.7				
11/27/11	8.08				
11/28/11	9.11				
11/29/11	13.9				
11/30/11	9.27				
12/1/11	10.2				
12/2/11	10.8				
12/3/11	9.66				
12/4/11	7.27				
12/5/11	9.99	4.33	57%		
12/6/11	11.3				
12/7/11	11				
12/8/11	11.5				
12/9/11	10.8				
12/10/11	10.2				
12/11/11	8.44				
12/12/11	8.68				
12/13/11	8.78				
12/14/11	10.4				
12/15/11	10.5				
12/16/11	11.6				
12/17/11	8.37				
12/18/11	7.77				
12/19/11	15.2				
12/20/11	9.77				
12/21/11	9.58				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
12/22/11	12.2				
12/23/11	14.3				
12/24/11	9.63				
12/25/11	7.4				
12/26/11	8.19				
12/27/11	10.6				
12/28/11	9.1				
12/29/11	9.82				
12/30/11	15.8				
1/1/2012	6.86				
1/2/2012	6.59				
1/3/2012	8.94				
1/4/2012	9.45	5.13	46%		
1/5/2012	19.1				
1/6/2012	31.6*				
1/7/2012	10.4				
1/8/2012	9.07				
1/9/2012	13.1				
1/10/2012	13.7				
1/11/2012	11.2				
1/12/2012	11.9				
1/13/2012	10.7				
1/14/2012	8.14				
1/15/2012	10.2				
1/16/2012	11.2				
1/17/2012	9.81				
1/18/2012	11.1				
1/19/2012	9.19				
1/20/2012	10.7				
1/21/2012	10.3				
1/22/2012	7.91				
1/23/2012	11.4				
1/24/2012	15.0				
1/25/2012	13.9				
1/26/2012	9.30				
1/27/2012	8.34				
1/28/2012	20.8				
1/29/2012	8.65				
1/30/2012	9.46				
1/31/2012	8.81				
2/1/2012	11.0				
2/2/2012	11.8				
2/3/2012	11.1				
2/4/2012	11.7				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
2/5/2012	9.67				
2/6/2012	9.80	5.49	44%		
2/7/2012	9.31				
2/8/2012	11.2				
2/9/2012	12.8				
2/10/2012	16.0				
2/11/2012	10.2				
2/12/2012	8.27				
2/13/2012	17.6				
2/14/2012	9.79				
2/15/2012	16.6				
2/16/2012	13.8				
2/17/2012	12.5				
2/18/2012	11.2				
2/19/2012	11.5				
2/20/2012	10.1				
2/21/2012	11.6				
2/22/2012	9.78				
2/23/2012	17.0				
2/24/2012	9.72				
2/25/2012	9.76				
2/26/2012	8.54				
2/27/2012	9.95				
2/28/2012	9.98				
2/29/2012	14.9				
3/1/2012	14.7	7.13	51%		
3/2/2012	10.8				
3/3/2012	10.0				
3/4/2012	7.85				
3/5/2012	10.2				
3/6/2012	12.4				
3/7/2012	10.9				
3/8/2012	9.58				
3/9/2012	9.53				
3/10/2012	9.28				
3/11/2012	8.23				
3/12/2012	22.2*				
3/13/2012	13.6				
3/14/2012	12.3				
3/15/2012	9.44				
3/16/2012	9.01	5.95	34%		
3/17/2012	8.26	6.08	26%		
3/18/2012	8.63				
3/19/2012	15.1				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (ug/L)	Nickel Final Effluent (ug/L)	Nickel Percent Removal	Percent Removal in Order	Rank
3/20/2012	13.1				
3/21/2012	11.8				
3/22/2012	11.8				
3/23/2012	11.7				
3/24/2012	11.2				
3/25/2012	11.7				
3/26/2012	73.6*				
3/27/2012	15.7				
3/28/2012	23*				
3/29/2012	12.7				
3/30/2012	11.6				
3/31/2012	12.9				
4/1/2012	9.25				
4/2/2012	11.7				
4/3/2012	10.5				
4/4/2012	11.6				
4/5/2012	12.6	7.23	43%		
4/6/2012	11.4				
4/7/2012	9.77				
4/8/2012	7.92				
4/9/2012	14.6				
4/10/2012	9.97				
4/11/2012	11.4				
4/12/2012	11.1				
4/13/2012	11.9				
4/14/2012	11.5				
4/15/2012	9.12				
4/16/2012	12.8				
4/17/2012	10.9				
4/18/2012	13.6				
4/19/2012	14.9				
4/20/2012	12.0				
4/21/2012	10.2				
4/22/2012	8.21				
4/23/2012	9.16				
4/24/2012	13.1				
4/25/2012	11.7				
4/26/2012	10.3				
4/27/2012	12.2				
4/28/2012	8.76				
4/29/2012	8.47				

Table B-11: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Nickel

Date	Nickel Influent (µg/L)	Nickel Final Effluent (µg/L)	Nickel Percent Removal	Percent Removal in Order	Rank
4/30/2012	9.27				
5/1/2012	10.9	5.47	50%		
6/1/2012	12.0	5.74	52%		

*Asterisks indicate influent data removed due to being above 2 standard deviations or 21.5 µg/L; therefore, considered outliers.

<u>Nickel Removal Rate Calculations</u>

Total Number of Samples	84
Median =	44%
ADRE =	**48%**
MRE =	**44%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 84*(0.3) =	25
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**41%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (µg/L) =	**21**
Average Raw Sewage (µg/L) =	**11**
Maximum Final Effluent (µg/L) =	**9.17**
Average Final Effluent (µg/L) =	**6.22**

Table B-12: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Selenium

Date	Selenium Influent (µg/L)	Selenium Final Effluent (µg/L)	Selenium Percent Removal	Percent Removal in Order	Rank
1/3/08	2.06	0.48	77%	59%	1
2/4/08	1.96	0.641	67%	60%	2
3/25/08	1.87	0.524	72%	66%	3
4/3/08	1.88	0.509	73%	67%	4
5/5/08	1.49	0.589	60%	67%	2
6/3/08	1.17	0.481	59%	68%	1
7/2/08	2.27	0.37	84%	69%	7
8/5/08	1.21	0.295	76%	70%	8
9/3/08	1.37	0.23	83%	70%	9
10/7/08	3.44	0.314	91%	71%	10
11/4/08	6.9*	0.255		71%	11
12/3/08	2.17	0.251	88%	71%	12
1/6/09	2.06	0.365	82%	71%	13
2/4/09	2.5	0.34	86%	71%	14
3/3/09	2.32	0.399	83%	72%	15
4/7/09	2.06	0.604	71%	72%	16
5/4/09	1.59	0.5	69%	72%	17
6/1/09	1.87	0.542	71%	72%	18
7/8/09	1.59	0.466	71%	73%	19
8/5/09	1.8	0.382	79%	74%	20
9/1/09	1.41	0.398	72%	75%	21
10/5/09	2.29	0.468	80%	76%	22
11/5/09	2.22	0.401	82%	76%	23
12/2/09	2.1	0.367	83%	76%	24
1/5/10	1.86	0.445	76%	77%	25
2/3/10	2.78	0.523	81%	78%	26
2/21/10		0.52		78%	27
2/22/10		0.497		79%	28
2/23/10		0.6		79%	29
2/24/10		0.602		79%	30
2/25/10		0.61		80%	31
2/26/10		0.621		80%	32
2/27/10		0.578		80%	33
3/1/10	2.28	0.646	72%	80%	34
4/5/10	2.79	0.657	76%	81%	35
5/6/10	2.22	0.44	80%	81%	36
6/2/10	2.42	0.47	81%	81%	37
7/8/10	1.69	0.38	78%	81%	38
8/2/10	1.99	0.42	79%	82%	39
9/1/10	2.55	0.39	85%	82%	40
10/5/10	1.92	0.37	81%	83%	41
11/3/10	2.09	0.36	83%	83%	42
12/2/10	2.71	0.54	80%	83%	43

Table B-12: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Selenium

Date	Selenium Influent (µg/L)	Selenium Final Effluent (µg/L)	Selenium Percent Removal	Percent Removal in Order	Rank
1/6/11	2.44	0.64	74%	83%	44
2/2/11	2.22	0.64	71%	84%	45
3/1/11	2.02	0.67	67%	84%	46
4/4/11	1.84	0.51	72%	84%	47
5/3/11	1.48	0.32	78%	85%	48
6/1/11	1.48	0.43	71%	86%	49
7/6/11	2.06	0.62	70%	88%	50
8/1/11	1.65	0.32	81%	89%	51
9/1/11	3.02	0.49	84%	91%	52
10/3/11	1.83	0.29	84%		
11/3/11	1.36	0.34	75%		
12/5/11	3.68	0.4	89%		
1/4/12	1.43	0.3	79%		
2/6/12	4.65*	0.46			
3/1/12	1.67	0.56	66%		
4/5/12	1.7	0.54	68%		
5/1/12	1.69	0.5	70%		
6/1/12	2.48	0.49	80%		

*Asterisks indicate influent data removed due to being 2.5 standard deviations or 3.96 µg/L; therefore, considered outliers.

<u>**Selenium Removal Rate Calculations**</u>

Total Number of Samples	52
Median =	78%
ADRE =	**77%**
MRE =	**77%**
To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 52*(0.3) =	16
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**72%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**3.7**
Average Raw Sewage (µg/L) =	**2.0**
Maximum Final Effluent (µg/L) =	**0.67**
Average Final Effluent (µg/L) =	**0.46**

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
1/1/08	0.837	0.00815	99%	87%	1
1/3/08	1.56	0.0163	99%	90%	2
1/8/08	1.03	0.0333	97%	93%	3
1/15/08	1.6	0.0197	99%	94%	4
1/22/08	1.18	0.157	87%	95%	5
1/29/08	1.52	0.0138	99%	96%	6
2/4/08	2.38*	0.0115		96%	7
3/25/08	0.553	0.0212	96%	96%	8
4/3/08	1.01	0.006	99%	96%	9
5/5/08	1.56	0.0166	99%	96%	10
6/3/08	1.59	0.0265	98%	97%	11
7/2/08	1.03	0.0428	96%	97%	12
8/5/08	1.69	0.00983	99%	97%	13
9/3/08	0.954	0.0195	98%	97%	14
10/7/08	1.49	0.0486	97%	97%	15
11/4/08	4.29*	0.00968		97%	16
12/3/08	1.67	0.0165	99%	97%	17
1/6/09	1.16	0.0105	99%	97%	18
2/4/09	1.48	0.0288	98%	97%	19
3/3/09	1.4	0.0221	98%	97%	20
4/7/09	1.17	0.0244	98%	97%	21
5/4/09	0.847	0.0542	94%	97%	22
6/1/09	1.1	0.021	98%	97%	23
7/8/09	1.1	0.112	90%	97%	24
7/14/09		0.0141		97%	25
8/5/09	1.22	0.0131	99%	97%	26
8/23/09		0.0159		97%	27
8/24/09		0.0176		98%	28
8/25/09		0.0147		98%	29
8/26/09		0.0135		98%	30
8/27/09		0.0164		98%	31
8/28/09		0.0224		98%	32
8/29/09		0.0185		98%	33
9/1/09	1.69	0.0206	99%	98%	34
10/5/09	1.39	0.0138	99%	98%	35
11/5/09	1.41	0.0193	99%	98%	36
12/1/09		0.0131		98%	37
12/2/09	1.91	0.0156	99%	98%	38
12/3/09		0.0281		98%	39
12/4/09		0.018		98%	40
12/5/09		0.027		98%	41
12/6/09		0.0159		98%	42

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
12/7/09		0.0137		98%	43
12/8/09		0.0175		98%	44
12/9/09		0.019		98%	45
12/10/09		0.0183		98%	46
12/11/09		0.0146		98%	47
12/12/09		0.0182		98%	48
12/13/09		0.0227		98%	49
12/14/09		0.0132		98%	50
12/15/09		0.0149		98%	51
1/5/10	1.83	0.03	98%	98%	52
2/3/10	2.1*	0.0118		98%	53
2/21/10		0.0154		98%	54
2/22/10		0.017		98%	55
2/23/10		0.0157		99%	56
2/24/10		0.0175		99%	57
2/25/10		0.0212		99%	58
2/26/10		0.0159		99%	59
2/27/10		0.0133		99%	60
3/1/10	1.33	0.0243	98%	99%	61
4/5/10	1.03	0.0344	97%	99%	62
5/6/10	0.893	0.0133	99%	99%	63
6/2/10	0.814	0.00979	99%	99%	64
7/8/10	1.95	0.0359	98%	99%	65
8/2/10	1.94	0.0259	99%	99%	66
9/1/10	1.16	0.003	100%	99%	67
9/13/10		0.003		99%	68
9/14/10		0.003		99%	69
9/15/10		0.003		99%	70
9/16/10		0.003		99%	71
10/5/10	2.4*	0.003		99%	72
11/3/10	1.72	0.0223	99%	99%	73
12/2/10	2.25*	0.0204		99%	74
1/6/11	1.17	0.0292	98%	99%	75
2/2/11	1.31	0.0456	97%	99%	76
3/1/11	1.13	0.0562	95%	99%	77
4/4/11	1.1	0.0476	96%	99%	78
5/3/11	1.15	0.0302	97%	99%	79
5/8/11	0.605	0.0165	97%	99%	80
5/9/11	1.03	0.0154	99%	99%	
5/10/11	1.49	0.0155	99%	99%	
5/11/11	1.24	0.0175	99%	100%	
5/12/11	1.37	0.0212	98%	100%	

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
5/13/11	1.23	0.0237	98%		
5/14/11	1.29	0.0275	98%		
5/15/11	0.957	0.0244	97%		
5/16/11	1.28	0.0457	96%		
5/17/11	1.25	0.0285	98%		
5/18/11	1.08	0.0245	98%		
5/19/11	1.06	0.0266	97%		
5/20/11	1.53	0.024	98%		
5/21/11	0.851	0.0261	97%		
5/22/11	0.822	0.025	97%		
5/23/11	1.17	0.0215	98%		
5/24/11	1.29	0.0251	98%		
5/25/11	1.28	0.0493	96%		
5/26/11	1.37	0.0248	98%		
5/27/11	1.27	0.0238	98%		
5/28/11	0.844	0.0185	98%		
5/29/11	0.618	0.0176	97%		
5/30/11	0.643	0.0418	93%		
5/31/11	1.24	0.0175	99%		
6/1/11	1.0115	0.0197	98%		
6/2/11	1.29	0.0345	97%		
6/3/11	1.25	0.0139	99%		
6/4/11	0.905	0.0055	99%		
6/5/11	0.622	0.0055	99%		
6/6/11	1.6				
6/7/11	1.24				
6/8/11	1.07				
6/9/11	0.703				
6/10/11	1.15				
6/11/11	0.834				
6/12/11	0.656				
6/13/11	0.838				
6/14/11	1.04				
6/15/11	1.12				
6/16/11	1.15				
6/17/11	0.857				
6/18/11	0.816				
6/19/11	0.758				
6/20/11	1.29				
6/21/11	1.25				
6/23/11	1.37				
6/24/11	1.25				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
6/25/11	0.74				
6/26/11	0.903				
6/27/11	0.913				
6/28/11	0.994				
6/29/11	1.02				
7/1/11	0.978				
7/2/11	1.4				
7/3/11	0.66				
7/4/11	0.706				
7/5/11	0.971				
7/6/11	1.03	0.0263	97%		
7/7/11	1.07				
7/8/11	0.921				
7/9/11	0.588				
7/10/11	0.641				
7/11/11	1.19				
7/12/11	0.931				
7/13/11	0.983				
7/14/11	0.893				
7/15/11	0.789				
7/16/11	0.626				
7/17/11	0.566				
7/18/11	0.794				
7/19/11	0.81				
7/20/11	0.613				
7/21/11	0.694				
7/22/11	0.612				
7/23/11	0.603				
7/24/11	0.531				
7/25/11	0.766				
7/26/11	0.956				
7/27/11	0.759				
7/28/11	0.873				
7/29/11	0.714				
7/30/11	0.788				
7/31/11	0.65				
8/1/11	1.68	0.0229	99%		
8/2/11	1.02				
8/3/11	1.15				
8/4/11	1.18				
8/5/11	0.565				
8/6/11	0.705				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
8/7/11	0.986				
8/8/11	0.936				
8/9/11	0.916				
8/10/11	1.06				
8/11/11	1.54				
8/12/11	0.969				
8/13/11	0.757				
8/14/11	0.545				
8/15/11	0.739				
8/16/11	1.06				
8/17/11	1.17				
8/18/11	0.977				
8/19/11	0.995				
8/20/11	0.785				
8/21/11	1.19				
8/22/11	1.16				
8/23/11	1.18				
8/24/11	1.81				
8/25/11	1.24				
8/26/11	0.812				
8/27/11	0.697				
8/28/11	0.724				
8/29/11	0.846				
8/30/11	0.967				
8/31/11	1.21				
9/1/11	1.25	0.0055	100%		
9/2/11	1.6				
9/3/11	0.951				
9/4/11	0.395				
9/5/11	0.28				
9/6/11	1.18				
9/7/11	0.813				
9/8/11	0.962				
9/9/11	1.38				
9/10/11	0.813				
9/11/11	1.35				
9/12/11	0.623				
9/13/11	0.819				
9/14/11	1.05				
9/15/11	0.941				
9/16/11	1.01				
9/17/11	0.592				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
9/18/11	0.218				
9/19/11	0.628				
9/20/11	0.787				
9/21/11	0.947				
9/22/11	0.627				
9/23/11	0.389				
9/24/11	0.328				
9/25/11	0.182				
9/26/11	0.419				
9/27/11	0.788				
9/28/11	0.634				
9/29/11	0.879				
9/30/11	0.725				
10/1/11	0.568				
10/2/11	0.53				
10/3/11	0.7	0.0055	99%		
10/4/11	0.83				
10/5/11	0.78				
10/6/11	0.741				
10/7/11	1.52				
10/8/11	0.725				
10/9/11	0.53				
10/10/11	0.71				
10/11/11	0.77				
10/12/11	0.877				
10/13/11	1				
10/14/11	0.743				
10/15/11	0.501				
10/16/11	0.593				
10/17/11	0.618				
10/18/11	0.819				
10/19/11	0.659				
10/20/11	0.646				
10/21/11	0.884				
10/22/11	0.68				
10/23/11	0.523				
10/24/11	0.981				
10/25/11	0.903				
10/26/11	0.945				
10/27/11	1.09				
10/28/11	0.814				
10/29/11	0.643				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
10/30/11	0.674				
10/31/11	0.851				
11/1/11	1.26				
11/2/11	1.17				
11/3/11	0.997	0.015	98%		
11/4/11	0.8				
11/5/11	0.577				
11/6/11	0.537				
11/7/11	1.07				
11/8/11	0.83				
11/9/11	1.53				
11/10/11	0.958				
11/11/11	0.965				
11/12/11	0.774				
11/13/11	1.63				
11/14/11	0.882				
11/15/11	1.15				
11/16/11	1.01				
11/17/11	0.834				
11/18/11	1.76				
11/19/11	0.986				
11/20/11	0.522				
11/21/11	0.7				
11/22/11	1.11				
11/23/11	0.864				
11/24/11	0.665				
11/25/11	0.434				
11/26/11	0.531				
11/27/11	0.259				
11/28/11	0.521				
11/29/11	0.827				
11/30/11	0.705				
12/1/11	1.45				
12/2/11	0.607				
12/3/11	0.431				
12/4/11	0.214				
12/5/11	2.79*	0.015			
12/6/11	0.618				
12/7/11	0.565				
12/8/11	1.32				
12/9/11	0.933				
12/10/11	0.587				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
12/11/11	0.37				
12/12/11	0.968				
12/13/11	0.744				
12/14/11	0.878				
12/15/11	0.945				
12/16/11	1.51				
12/17/11	1.23				
12/18/11	0.491				
12/19/11	0.763				
12/20/11	0.778				
12/21/11	1.06				
12/22/11	1.07				
12/23/11	0.921				
12/24/11	0.675				
12/25/11	0.497				
12/26/11	0.518				
12/27/11	1.14				
12/28/11	0.896				
12/29/11	0.809				
12/30/11	0.723				
1/1/12	0.31				
1/2/12	0.38				
1/3/12	0.62				
1/4/12	0.73	0.0225	97%		
1/5/12	0.85				
1/6/12	0.66				
1/7/12	0.57				
1/8/12	0.41				
1/9/12	0.82				
1/10/12	0.92				
1/11/12	0.88				
1/12/12	0.98				
1/13/12	0.77				
1/14/12	0.61				
1/15/12	0.48				
1/16/12	0.74				
1/17/12	0.77				
1/18/12	0.84				
1/19/12	0.94				
1/20/12	0.82				
1/21/12	0.72				
1/22/12	0.68				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
1/23/12	0.66				
1/24/12	0.76				
1/25/12	0.88				
1/26/12	0.76				
1/27/12	0.62				
1/28/12	0.57				
1/29/12	0.51				
1/30/12	0.95				
1/31/12	0.81				
2/1/12	0.68				
2/2/12	0.71				
2/3/12	0.77				
2/4/12	1.02				
2/5/12	0.53				
2/6/12	0.7	0.0225	97%		
2/7/12	0.8				
2/8/12	0.96				
2/9/12	0.86				
2/10/12	0.85				
2/11/12	0.92				
2/12/12	0.5				
2/13/12	0.8				
2/14/12	1.72				
2/15/12	0.87				
2/16/12	0.9				
2/17/12	0.8				
2/18/12	1.35				
2/19/12	0.76				
2/20/12	0.74				
2/21/12	0.78				
2/22/12	1.33				
2/23/12	0.74				
2/24/12	1.01				
2/25/12	0.63				
2/26/12	0.6				
2/27/12	0.91				
2/28/12	1				
2/29/12	0.8				
3/1/12	1.1	0.0225	98%		
3/2/12	0.82				
3/3/12	0.64				
3/4/12	0.45				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
3/5/12	1.42				
3/6/12	0.81				
3/7/12	1.17				
3/8/12	0.74				
3/9/12	0.79				
3/10/12	0.7				
3/11/12	0.6				
3/12/12	0.84				
3/13/12	0.84				
3/14/12	0.92				
3/15/12	0.84				
3/16/12	2.06*	0.0225			
3/17/12	0.93	0.0225	98%		
3/18/12	0.53				
3/19/12	0.75				
3/20/12	0.92				
3/21/12	0.79				
3/22/12	0.9				
3/23/12	1.31				
3/24/12	0.6				
3/25/12	0.52				
3/26/12	0.77	0.0225	97%		
3/27/12	0.85	0.0225	97%		
3/28/12	1.79				
3/29/12	0.9				
3/30/12	0.84				
3/31/12	0.73				
4/1/12	1.03				
4/2/12	0.61				
4/3/12	1.11				
4/4/12	1.07				
4/5/12	0.94	0.0225	98%		
4/6/12	1.03				
4/7/12	0.7				
4/8/12	0.55				
4/9/12	0.71				
4/10/12	1				
4/11/12	0.85				
4/12/12	0.95				
4/13/12	0.96				
4/14/12	0.68				
4/15/12	0.8				

Table B-13: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Silver

Date	Silver Influent (µg/L)	Silver Final Effluent (µg/L)	Silver Percent Removal	Percent Removal in Order	Rank
4/16/12	0.81				
4/17/12	1.05				
4/18/12	1.68				
4/19/12	1.02				
4/20/12	0.84				
4/21/12	0.88				
4/22/12	0.56				
4/23/12	0.76				
4/24/12	1.02				
4/25/12	1.1				
4/26/12	1.13				
4/27/12	0.88				
4/28/12	0.68				
4/29/12	0.48				
4/30/12	0.81				
5/1/12	1.39	0.0225	98%		
6/1/12	1.46	0.0225	98%		

*Asterisks indicate influent data removed due to being above 2.5 standard deviations or 1.95 µg/L; therefore, considered outliers.

<u>**Silver Removal Rate Calculations**</u>

Total Number of Samples	84
Median =	98%
ADRE =	**98%**
MRE =	**98%**

To calculate the removal rate at the 3rd decile

Rank of 3rd decile = Sample Size* (30%) = 84*(0.3) =	25
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**97%**

<u>**Maximum and Average Values**</u>

Maximum Raw Sewage (µg/L) =	**2.0**
Average Raw Sewage (µg/L) =	**0.9**
Maximum Final Effluent (µg/L) =	**0.16**
Average Final Effluent (µg/L) =	**0.02**

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
1/3/08	189	23.5	88%	80%	1
2/4/08	191	26.8	86%	84%	2
3/25/08	222	22.5	90%	84%	3
4/3/08	274*	35.9		85%	4
5/5/08	183	20.8	89%	85%	5
6/3/08	176	22.4	87%	85%	6
7/2/08	198	24.7	88%	85%	7
8/5/08	170	26.6	84%	85%	8
9/3/08	151	30.7	80%	86%	9
10/7/08	233	29	88%	86%	10
11/4/08	613*	17.6		86%	11
12/3/08	240	18.9	92%	86%	12
1/6/09	218	24.2	89%	86%	13
2/4/09	174	22.4	87%	86%	14
3/3/09	183	22.9	87%	86%	15
4/7/09	176	24.3	86%	86%	16
5/4/09	161	17.7	89%	86%	17
6/1/09	186	16.2	91%	87%	18
7/8/09	167	22.8	86%	87%	19
7/11/09	160	18	89%	87%	20
7/12/09	140	16	89%	87%	21
7/13/09	170	15	91%	87%	22
7/14/09	160	24	85%	87%	23
8/5/09	217	21.8	90%	87%	24
8/23/09		20.2		87%	25
8/24/09		16.4		87%	26
8/25/09		18.9		87%	27
8/26/09		20.6		87%	28
8/27/09		18.4		87%	29
8/28/09		21.9		87%	30
8/29/09		21.2		88%	31
9/1/09	226	19.6	91%	88%	32
10/5/09	192	16	92%	88%	33
11/5/09	233	28	88%	88%	34
12/1/09		21.4		88%	35
12/2/09	202	22.4	89%	88%	36
12/3/09		21.7		88%	37
12/4/09		25.1		88%	38
12/5/09		22.3		88%	39
12/6/09		21.3		88%	40
12/7/09		24		88%	41
12/8/09		20.4		88%	42
12/9/09		22.7		88%	43
12/10/09		24.4		88%	44

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
12/11/09		24.2		88%	45
12/12/09		24.3		88%	46
12/13/09		23.1		88%	47
12/14/09		23.6		88%	48
12/15/09		23.1		88%	49
1/5/10	167	22	87%	89%	50
2/3/10	197	22.7	88%	89%	51
2/21/10		21.5		89%	52
2/22/10		20.9		89%	53
2/23/10		26.8		89%	54
2/24/10		33.7		89%	55
2/25/10		33.5		89%	56
2/26/10		34.2		89%	57
2/27/10		30.1		89%	58
3/1/10	217	29	87%	89%	59
4/5/10	161	16.7	90%	89%	60
5/6/10	199	22.8	89%	89%	61
6/2/10	157	16.9	89%	89%	62
7/8/10	198	25.8	87%	89%	63
8/2/10	185	19.9	89%	89%	64
9/1/10	188	22.2	88%	89%	65
9/13/10		18.3		89%	66
9/14/10		17.6		89%	67
9/15/10		18.3		89%	68
9/16/10		21.8		89%	69
10/5/10	227	17.3	92%	90%	70
11/3/10	209	18.9	91%	90%	71
12/2/10	261*	22.1		90%	72
1/6/11	157	19.9	87%	90%	73
2/2/11	180	22.1	88%	90%	74
3/1/11	165	18	89%	90%	75
4/4/11	152	18.3	88%	90%	76
5/3/11	181	23.5	87%	90%	77
5/8/11	150	20.3	86%	91%	78
5/9/11	181	19.9	89%	91%	79
5/10/11	215	23.1	89%	91%	80
5/11/11	189	19.9	89%	91%	81
5/12/11	191	19.6	90%	92%	82
5/13/11	192	21.1	89%	92%	83
5/14/11	168	20.3	88%	92%	84
5/15/11	185	29.3	84%		
5/16/11	157	18.9	88%		
5/17/11	171	21.8	87%		
5/18/11	158	20.5	87%		

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
5/19/11	155	20.9	87%		
5/20/11	185	18.7	90%		
5/21/11	164	21.2	87%		
5/22/11	167	17.8	89%		
5/23/11	150	18.6	88%		
5/24/11	146	16.4	89%		
5/25/11	156	17.7	89%		
5/26/11	160	17.4	89%		
5/27/11	156	19.1	88%		
5/28/11	148	22.6	85%		
5/29/11	145	19.4	87%		
5/30/11	162	19.8	88%		
5/31/11	180	19.1	89%		
6/1/11	160	18.9	88%		
6/2/11	157	18.2	88%		
6/3/11	156	19	88%		
6/4/11	165	23.7	86%		
6/5/11	129	18.2	86%		
6/6/11	169				
6/7/11	179				
6/8/11	200				
6/9/11	137				
6/10/11	171				
6/11/11	171				
6/12/11	157				
6/13/11	175				
6/14/11	170				
6/15/11	185				
6/16/11	182				
6/17/11	160				
6/18/11	163				
6/19/11	164				
6/20/11	196				
6/21/11	181				
6/23/11	147				
6/24/11	164				
6/25/11	150				
6/26/11	155				
6/27/11	165				
6/28/11	186				
6/29/11	162				
7/1/11	179				
7/2/11	155				
7/3/11	150				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
7/4/11	176				
7/5/11	154				
7/6/11	167	18.6	89%		
7/7/11	180				
7/8/11	177				
7/9/11	144				
7/10/11	157				
7/11/11	164				
7/12/11	176				
7/13/11	169				
7/14/11	158				
7/15/11	162				
7/16/11	154				
7/17/11	162				
7/18/11	162				
7/19/11	161				
7/20/11	177				
7/21/11	162				
7/22/11	158				
7/23/11	147				
7/24/11	145				
7/25/11	167				
7/26/11	156				
7/27/11	156				
7/28/11	158				
7/29/11	158				
7/30/11	163				
7/31/11	155				
8/1/11	176	17.7	90%		
8/2/11	170				
8/3/11	174				
8/4/11	183				
8/5/11	173				
8/6/11	166				
8/7/11	194				
8/8/11	185				
8/9/11	174				
8/10/11	172				
8/11/11	187				
8/12/11	147				
8/13/11	142				
8/14/11	145				
8/15/11	151				
8/16/11	182				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
8/17/11	195				
8/18/11	153				
8/19/11	156				
8/20/11	156				
8/21/11	196				
8/22/11	202				
8/23/11	170				
8/24/11	173				
8/25/11	190				
8/26/11	185				
8/27/11	153				
8/28/11	146				
8/29/11	172				
8/30/11	185				
8/31/11	201				
9/1/11	165	19.3	88%		
9/2/11	152				
9/3/11	160				
9/4/11	154				
9/5/11	150				
9/6/11	160				
9/7/11	182				
9/8/11	175				
9/9/11	180				
9/10/11	139				
9/11/11	170				
9/12/11	174				
9/13/11	140				
9/14/11	138				
9/15/11	146				
9/16/11	151				
9/17/11	170				
9/18/11	152				
9/19/11	162				
9/20/11	172				
9/21/11	163				
9/22/11	168				
9/23/11	172				
9/24/11	169				
9/25/11	177				
9/26/11	168				
9/27/11	167				
9/28/11	176				
9/29/11	189				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
9/30/11	174				
10/1/11	188				
10/2/11	173				
10/3/11	179	27	85%		
10/4/11	185				
10/5/11	200				
10/6/11	175				
10/7/11	166				
10/8/11	167				
10/9/11	176				
10/10/11	173				
10/11/11	173				
10/12/11	172				
10/13/11	159				
10/14/11	163				
10/15/11	174				
10/16/11	162				
10/17/11	181				
10/18/11	197				
10/19/11	176				
10/20/11	162				
10/21/11	183				
10/22/11	181				
10/23/11	178				
10/24/11	167				
10/25/11	165				
10/26/11	167				
10/27/11	168				
10/28/11	158				
10/29/11	157				
10/30/11	151				
10/31/11	155				
11/1/11	155				
11/2/11	155				
11/3/11	158	23.8	85%		
11/4/11	163				
11/5/11	159				
11/6/11	154				
11/7/11	166				
11/8/11	170				
11/9/11	164				
11/10/11	167				
11/11/11	278*				
11/12/11	166				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
11/13/11	136				
11/14/11	165				
11/15/11	184				
11/16/11	179				
11/17/11	160				
11/18/11	306*				
11/19/11	257*				
11/20/11	166				
11/21/11	150				
11/22/11	149				
11/23/11	150				
11/24/11	181				
11/25/11	143				
11/26/11	180				
11/27/11	133				
11/28/11	140				
11/29/11	147				
11/30/11	144				
12/1/11	156				
12/2/11	160				
12/3/11	158				
12/4/11	157				
12/5/11	172	16.7	90%		
12/6/11	148				
12/7/11	153				
12/8/11	163				
12/9/11	168				
12/10/11	156				
12/11/11	148				
12/12/11	129				
12/13/11	170				
12/14/11	146				
12/15/11	223				
12/16/11	164				
12/17/11	159				
12/18/11	167				
12/19/11	161				
12/20/11	147				
12/21/11	159				
12/22/11	169				
12/23/11	183				
12/24/11	170				
12/25/11	160				
12/26/11	165				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
12/27/11	167				
12/28/11	161				
12/29/11	170				
12/30/11	181				
1/1/2012	155				
1/2/2012	161				
1/3/2012	159				
1/4/2012	174	20.6	88%		
1/5/2012	175				
1/6/2012	181				
1/7/2012	164				
1/8/2012	171				
1/9/2012	187				
1/10/2012	167				
1/11/2012	168				
1/12/2012	180				
1/13/2012	175				
1/14/2012	171				
1/15/2012	181				
1/16/2012	196				
1/17/2012	163				
1/18/2012	181				
1/19/2012	185				
1/20/2012	176				
1/21/2012	205				
1/22/2012	181				
1/23/2012	181				
1/24/2012	185				
1/25/2012	219				
1/26/2012	187				
1/27/2012	177				
1/28/2012	179				
1/29/2012	161				
1/30/2012	179				
1/31/2012	167				
2/1/2012	171				
2/2/2012	160				
2/3/2012	206				
2/4/2012	216				
2/5/2012	185				
2/6/2012	196	27.1	86%		
2/7/2012	189				
2/8/2012	190				
2/9/2012	181				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
2/10/2012	175				
2/11/2012	166				
2/12/2012	171				
2/13/2012	159				
2/14/2012	177				
2/15/2012	200				
2/16/2012	174				
2/17/2012	209				
2/18/2012	180				
2/19/2012	210				
2/20/2012	196				
2/21/2012	185				
2/22/2012	188				
2/23/2012	174				
2/24/2012	165				
2/25/2012	170				
2/26/2012	175				
2/27/2012	172				
2/28/2012	167				
2/29/2012	208				
3/1/2012	197	30.3	85%		
3/2/2012	182				
3/3/2012	166				
3/4/2012	183				
3/5/2012	189				
3/6/2012	185				
3/7/2012	174				
3/8/2012	166				
3/9/2012	169				
3/10/2012	176				
3/11/2012	181				
3/12/2012	199				
3/13/2012	170				
3/14/2012	185				
3/15/2012	164				
3/16/2012	167	22.7	86%		
3/17/2012	178	25.4	86%		
3/18/2012	169				
3/19/2012	239				
3/20/2012	189				
3/21/2012	194				
3/22/2012	188				
3/23/2012	181				
3/24/2012	189				

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

Date	Zinc Influent (µg/L)	Zinc Final Effluent (µg/L)	Zinc Percent Removal	Percent Removal in Order	Rank
3/25/2012	184				
3/26/2012	176				
3/27/2012	219				
3/28/2012	203				
3/29/2012	177				
3/30/2012	176				
3/31/2012	434*				
4/1/2012	171				
4/2/2012	165				
4/3/2012	167				
4/4/2012	206				
4/5/2012	217	26.0	88%		
4/6/2012	193				
4/7/2012	195				
4/8/2012	169				
4/9/2012	189				
4/10/2012	178				
4/11/2012	198				
4/12/2012	184				
4/13/2012	195				
4/14/2012	180				
4/15/2012	169				
4/16/2012	173				
4/17/2012	182				
4/18/2012	177				
4/19/2012	186				
4/20/2012	171				
4/21/2012	196				
4/22/2012	166				
4/23/2012	170				
4/24/2012	191				
4/25/2012	180				
4/26/2012	208				
4/27/2012	164				
4/28/2012	160				
4/29/2012	177				
4/30/2012	177				
5/1/2012	193	20.1	90%		
6/1/2012	255*	18			

*Asterisks indicate influent data removed due to being above 2 standard deviations or 243 µg/L; therefore, considered outliers.

Table B-14: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Zinc

<u>**Zinc Removal Rate Calculations**</u>	
Total Number of Samples	84
Median =	88%
ADRE =	**88%**
MRE =	**87%**
To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 84*(0.3) =	25
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**87%**
<u>**Maximum and Average Values**</u>	
Maximum Raw Sewage (µg/L) =	**240**
Average Raw Sewage (µg/L) =	**173**
Maximum Final Effluent (µg/L) =	**36**
Average Final Effluent (µg/L) =	**22**

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
1/3/08		0.90		84%	1
2/4/08		0.60		89%	2
3/4/08		0.60		90%	3
3/25/08		0.60		92%	4
4/3/08		0.60		92%	5
5/5/08		0.60		95%	6
6/1/08	24.3			96%	7
6/2/08	26.0			96%	8
6/3/08	31.6	0.60	98%	96%	9
6/4/08	32.2			96%	10
6/5/08	36.6			97%	11
6/6/08	33.2			97%	12
6/7/08	30.2			97%	13
6/8/08	30.2			98%	14
6/9/08	30.6			98%	15
6/10/08	26.7			98%	16
6/11/08	26.8			98%	17
6/12/08	30.8			98%	18
6/13/08	33.2			98%	19
6/14/08	30.4			98%	20
6/15/08	28.3			98%	21
6/16/08	30.8			98%	22
6/17/08	29.0			98%	23
6/18/08	35.3			98%	24
6/19/08	25.7			98%	25
6/20/08	28.0			98%	26
6/21/08	27.3			98%	27
6/22/08	30.4			98%	28
6/23/08	32.1			98%	29
6/24/08	33.0			98%	30
6/25/08	35.6			98%	31
6/26/08	33.1			98%	32
6/27/08	32.0			98%	33
6/28/08	33.9			98%	34
6/29/08	31.9			98%	35
6/30/08	31.8			98%	36
7/1/08	30.9			98%	37
7/2/08	33.0	0.60	98%	98%	38
7/3/08	30.1			98%	39
7/4/08	30.2			98%	40
7/5/08	29.8			98%	41
7/6/08	31.1			98%	42
7/7/08	32.3			98%	43

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
7/8/08	32.4			98%	44
7/9/08	31.0			98%	45
7/10/08	31.5			98%	46
7/11/08	32.1			98%	47
7/12/08	30.5			98%	48
7/13/08	29.6			98%	49
7/14/08	30.1			98%	50
7/15/08	29.8			98%	51
7/16/08	30.8			98%	52
7/17/08	31.8			98%	53
7/18/08	37.8			99%	54
7/19/08	41.2*			99%	55
7/20/08	40.2*			99%	56
7/21/08	47.3*			99%	57
7/22/08	51.2*			99%	58
7/23/08	51.2*			99%	59
7/24/08	44.8*			99%	60
7/25/08	37.1			99%	61
7/26/08	27.5			99%	62
7/27/08	28.4			99%	63
7/28/08	27.6			99%	64
7/29/08	28.5			99%	65
7/30/08	29.9			99%	66
7/31/08	34.1			99.5%	67
8/1/08	35.2			99.99%	68
8/2/08	34.5				
8/3/08	37.4				
8/4/08	31.2				
8/5/08	33.5				
8/6/08	29.3				
8/7/08	33.4				
8/8/08	28.2				
8/9/08	29.1				
8/10/08	31.9				
8/11/08	30.2				
8/12/08	26.9				
8/13/08	31.5				
8/14/08	31.7				
8/15/08	30.9				
8/16/08	31.1				
8/17/08	32.8				
8/18/08	33.8				
8/19/08	34.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
8/20/08	30.8				
8/21/08	28.9				
8/22/08	30.8				
8/23/08	28.4				
8/24/08	33.3				
8/25/08	30.7				
8/26/08	30.5	0.50	98%		
8/27/08	31.7				
8/28/08	31.5				
8/29/08	30.9				
8/30/08	30.6				
8/31/08	31.6				
9/1/08	34.6				
9/2/08	33.4				
9/3/08	28.7	0.70	98%		
9/4/08	31.8				
9/5/08	30.0				
9/6/08	30.3				
9/7/08	30.2				
9/8/08	31.1				
9/9/08	30.1				
9/10/08	31.2				
9/11/08	31.1				
9/12/08	30.7				
9/13/08	28.6				
9/14/08	29.6				
9/15/08	29.2				
9/16/08	30.6				
9/17/08	39.8				
9/18/08	33.4				
9/19/08	29.7				
9/20/08	28.2				
9/21/08	27.6				
9/22/08	28.1				
9/23/08	27.0				
9/24/08	28.4				
9/25/08	34.0				
9/26/08	33.9				
9/27/08	32.6				
9/28/08	26.8				
9/29/08	26.7				
9/30/08	28.9				
10/1/08	32.8				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
10/2/08	31.4				
10/3/08	29.7				
10/4/08	29.1				
10/5/08	29.6				
10/6/08	30.0				
10/7/08	28.6	0.50	98%		
10/8/08	35.1				
10/8/08	26.9				
10/9/08	32.2				
10/9/08	27.8				
10/10/08	35.0				
10/10/08	27.3				
10/11/08	30.0				
10/11/08	39.8				
10/12/08	33.0				
10/12/08	38.6				
10/13/08	33.4				
10/13/08	38.6				
10/14/08	35.4				
10/14/08	27.2				
10/15/08	31.3				
10/16/08	34.1				
10/17/08	31.7				
10/18/08	30.5				
10/19/08	41.9 *				
10/20/08	34.0				
10/21/08	31.1				
10/22/08	30.5				
10/23/08	30.7				
10/24/08	25.8				
10/25/08	32.5				
10/26/08	35.0				
10/27/08	37.1				
10/28/08	26.9				
10/29/08	28.0				
10/30/08	37.1				
10/31/08	32.3				
11/1/08	28.5				
11/2/08	28.7				
11/3/08	32.3				
11/4/08	34.0	0.40	99%		
11/5/08	31.4				
11/6/08	37.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
11/7/08	30.7				
11/8/08	27.7				
11/9/08	32.1				
11/10/08	27.6				
11/11/08	31.1				
11/12/08	30.4				
11/13/08	30.7				
11/14/08	30.8				
11/14/08	25.8				
11/15/08	29.9				
11/16/08	45.4 *				
11/17/08	29.6				
11/18/08	33.0				
11/19/08	32.0				
11/20/08	38.4				
11/21/08	31.2				
11/22/08	29.8				
11/23/08	30.7				
11/24/08	31.1				
11/25/08	31.2				
11/26/08	29.7				
11/27/08	27.6				
11/28/08	33.5				
11/29/08	31.5				
11/30/08	31.3				
12/1/08	32.0	5.10	84%		
12/2/08	31.6	3.60	89%		
12/3/08	32.5	1.20	96%		
12/4/08	32.0	0.40	99%		
12/5/08	30.6	0.50	98%		
12/6/08	30.9				
12/7/08	31.5	0.40	99%		
12/8/08	33.4	0.40	99%		
12/9/08	30.8	0.70	98%		
12/10/08	29.8	0.50	98%		
12/11/08	27.8	0.60	98%		
12/12/08	31.5	0.50	98%		
12/13/08	30.8	0.50	98%		
12/14/08	29.8	0.60	98%		
12/15/08	30.8	0.40	99%		
12/16/08	31.6	0.30	99%		
12/17/08	30.4	0.50	98%		
12/18/08	33.1	0.50	98%		

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
12/19/08	31.9	0.50	98%		
12/20/08	33.3	0.40	99%		
12/21/08	35.6				
12/22/08	34.4				
12/23/08	32.2				
12/24/08	32.7				
12/25/08	30.2				
12/26/08	32.3				
12/27/08	34.1				
12/28/08	33.4				
12/29/08	31.5				
12/30/08	32.0				
12/31/08	31.8				
1/1/09	36.5				
1/2/09	31.3				
1/3/09	30.9				
1/4/09	28.1				
1/5/09	30.1				
1/6/09	33.3	0.80	98%		
1/7/09	32.5				
1/8/09	33.4				
1/9/09	33.2				
1/10/09	34.6				
1/11/09	30.7				
1/12/09	29.1				
1/13/09	29.9				
1/14/09	31.4				
1/15/09	32.6				
1/16/09	30.4				
1/17/09	31.1				
1/18/09	33.1				
1/19/09	28.4				
1/20/09	31.8				
1/21/09	31.8				
1/22/09	27.3				
1/23/09	32.2				
1/24/09	31.0				
1/25/09	31.1				
1/26/09	33.0				
1/27/09	33.6				
1/28/09	35.4				
1/29/09	35.8				
1/30/09	35.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
1/31/09	32.7				
2/1/09	34.9				
2/2/09	34.3				
2/3/09	35.4				
2/4/09	35.5	0.50	99%		
2/5/09	37.0				
2/6/09	33.7				
2/7/09	35.4				
2/8/09	31.5				
2/9/09	31.9				
2/10/09	33.8				
2/11/09	35.4				
2/12/09	32.6				
2/13/09	28.9				
2/14/09	31.4				
2/15/09	25.0				
2/16/09	28.1				
2/17/09	21.8				
2/18/09	24.7				
2/19/09	27.8				
2/20/09	29.5				
2/21/09	30.9				
2/22/09	33.3				
2/23/09	28.5				
2/24/09	30.1				
2/25/09	27.9				
2/26/09	29.4				
2/27/09	30.2				
2/28/09	31.8				
3/1/09	31.8				
3/2/09	29.6				
3/3/09	25.5	1.00	96%		
3/4/09	20.5				
3/5/09	25.1				
3/6/09	28.7				
3/7/09	31.2				
3/8/09	29.7				
3/9/09	28.1				
3/10/09	27.0				
3/11/09	31.0				
3/12/09	29.1				
3/13/09	27.2				
3/14/09	38.7				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
3/15/09	28.1				
3/15/09	26.5				
3/16/09	26.2				
3/17/09	29.0				
3/18/09	25.0				
3/19/09	26.0				
3/20/09	27.8				
3/21/09	22.7				
3/22/09	32.8				
3/23/09	29.0				
3/24/09	27.8				
3/25/09	30.1				
3/26/09	30.1				
3/27/09	36.6				
3/27/09	32.2				
3/28/09	32.2				
3/29/09	32.6				
3/30/09	33.5				
3/31/09	31.3				
4/1/09	30.7				
4/2/09	31.4				
4/3/09	33.9				
4/4/09	31.7				
4/5/09	35.8				
4/6/09	37.1				
4/6/09	30.5				
4/7/09	35.7	1.20	97%		
4/8/09	35.3				
4/9/09	33.7				
4/10/09	32.5				
4/11/09	32.0				
4/12/09	32.4				
4/13/09	37.1				
4/14/09	31.8				
4/15/09	36.3				
4/16/09	35.4				
4/17/09	32.9				
4/18/09	30.9				
4/19/09	35.2				
4/20/09	34.0				
4/21/09	32.6				
4/22/09	30.8				
4/23/09	30.5				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
4/24/09	30.2				
4/25/09	31.6				
4/26/09	29.2				
4/27/09	35.3				
4/28/09	31.5				
4/28/09	32.7				
4/29/09	32.1				
4/30/09	34.2				
5/1/09	30.3				
5/2/09	31.5				
5/3/09	31.9				
5/4/09	31.9	0.50	98%		
5/5/09	31.6				
5/6/09	30.8				
5/7/09	30.3				
5/8/09	29.9				
5/9/09	28.9				
5/10/09	28.5				
5/11/09	30.6				
5/12/09	34.8				
5/13/09	31.5				
5/14/09	27.4				
5/15/09	28.7				
5/16/09	28.6				
5/17/09	28.3				
5/18/09	30.9				
5/19/09	31.3				
5/20/09	30.0				
5/21/09	29.8				
5/22/09	28.8				
5/23/09	28.7				
5/24/09	31.4				
5/25/09	30.6				
5/26/09	30.7				
5/27/09	29.5				
5/28/09	27.5				
5/29/09	28.6				
5/30/09	30.1				
5/31/09	30.3				
6/1/09	33.3	0.50	98%		
6/2/09	32.4				
6/3/09	27.5				
6/4/09	27.3				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
6/5/09	27.9				
6/6/09	29.8				
6/7/09	28.9				
6/8/09	29.0				
6/9/09	28.3				
6/10/09	28.1				
6/11/09	27.8				
6/12/09	27.9				
6/13/09	28.5				
6/14/09	30.1				
6/15/09	30.0				
6/16/09	29.6				
6/17/09	27.1				
6/18/09	27.5				
6/19/09	27.6				
6/20/09	29.8				
6/21/09	30.5				
6/22/09	31.1				
6/23/09	30.3				
6/24/09	27.3				
6/25/09	28.6				
6/26/09	31.1				
6/27/09	30.9				
6/28/09	30.3				
6/29/09	30.5				
6/30/09	29.3				
7/1/09	30.6				
7/2/09	29.4				
7/3/09	27.7				
7/4/09	27.1				
7/5/09	28.5				
7/6/09	29.1				
7/7/09	30.8				
7/8/09	31.5	0.40	99%		
7/9/09	30.0				
7/10/09	30.6				
7/11/09	29.9				
7/12/09	30.9				
7/13/09	30.1				
7/14/09	30.0				
7/15/09	30.4				
7/16/09	29.8				
7/17/09	32.9				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
7/18/09	32.3				
7/19/09	34.1				
7/20/09	33.5				
7/21/09	33.1				
7/22/09	32.5				
7/23/09	33.3				
7/24/09	33.1				
7/25/09	35.5				
7/26/09	32.4				
7/27/09	33.9				
7/28/09	32.3				
7/29/09	32.5				
7/30/09	32.8				
7/31/09	33.1				
8/1/09	34.7				
8/2/09	32.9				
8/3/09	32.9				
8/4/09	31.9				
8/5/09	33.6	0.60	98%		
8/6/09	34.1				
8/7/09	35.5				
8/8/09	53.5 *				
8/9/09	30.6				
8/10/09	30.9				
8/11/09	34.0				
8/12/09	32.0				
8/13/09	32.0				
8/14/09	32.5				
8/15/09	34.2				
8/16/09	33.9				
8/17/09	33.7				
8/18/09	33.7				
8/19/09	32.1				
8/20/09	32.5				
8/21/09	30.4				
8/22/09	30.2				
8/23/09	33.1				
8/24/09	34.0				
8/25/09	34.7				
8/26/09	30.3				
8/27/09	32.2				
8/28/09	34.8				
8/29/09	30.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
8/30/09	28.5				
8/31/09	32.8				
9/1/09	35.0	0.70	98%		
9/2/09	33.7				
9/3/09	32.4				
9/4/09	32.1				
9/5/09	34.1				
9/6/09	31.6				
9/7/09	33.9				
9/8/09	36.8				
9/9/09	30.8				
9/10/09	29.6				
9/11/09	27.7				
9/12/09	28.8				
9/13/09	30.7				
9/14/09	30.5				
9/15/09	30.5				
9/16/09	28.8				
9/17/09	30.3				
9/18/09	29.9				
9/19/09	28.7				
9/20/09	30.3				
9/21/09	29.5				
9/22/09	31.6				
9/23/09	31.7				
9/24/09	34.1				
9/25/09	32.2				
9/26/09	32.6				
9/27/09	30.0				
9/28/09	29.9				
9/29/09	33.2				
9/30/09	30.2				
10/1/09	34.2				
10/2/09	32.6				
10/3/09	30.6				
10/4/09	30.5				
10/5/09	31.2	0.50	98%		
10/6/09	32.8				
10/7/09	35.2				
10/8/09	33.6				
10/9/09	34.9				
10/10/09	33.4				
10/11/09	33.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
10/12/09	35.6				
10/13/09	27.9				
10/14/09	26.2				
10/15/09	29.9				
10/16/09	28.7				
10/17/09	29.2				
10/18/09	29.9				
10/19/09	29.1				
10/20/09	28.6				
10/21/09	30.2				
10/22/09	31.6				
10/23/09	29.7				
10/24/09	29.3				
10/25/09	31.3				
10/26/09	29.4				
10/27/09	33.3				
10/28/09	31.7				
10/29/09	33.9				
10/30/09	30.5				
10/31/09	35.4				
11/1/09	31.1				
11/2/09	31.6				
11/3/09	32.6				
11/4/09	31.7				
11/5/09	30.5	0.60	98%		
11/6/09	30.8				
11/7/09	30.3				
11/8/09	31.9				
11/9/09	33.2				
11/10/09	31.5				
11/11/09	31.2				
11/12/09	30.6				
11/13/09	32.7				
11/14/09	31.8				
11/15/09	31.8				
11/16/09	31.5				
11/17/09	31.7				
11/18/09	31.2				
11/19/09	32.3				
11/20/09	31.6				
11/21/09	30.9				
11/22/09	31.3				
11/23/09	32.1				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
11/24/09	33.6				
11/25/09	30.3				
11/26/09	29.0				
11/27/09	35.4				
11/28/09	33.2				
11/29/09	34.0				
11/30/09	33.5				
12/1/09	32.2				
12/2/09	32.8	0.50	98%		
12/3/09	35.2				
12/4/09	34.8				
12/5/09	34.2				
12/6/09	34.4				
12/7/09	31.3				
12/8/09	31.9				
12/9/09	33.1				
12/10/09	32.6				
12/11/09	32.0				
12/12/09	30.7				
12/13/09	30.5				
12/14/09	30.4				
12/15/09	31.8				
12/16/09	31.4				
12/17/09	33.0				
12/18/09	32.2				
12/19/09	29.5				
12/20/09	31.4				
12/21/09	31.4				
12/22/09	30.0				
12/23/09	31.4				
12/24/09	28.9				
12/25/09	30.4				
12/26/09	31.7				
12/27/09	30.6				
12/28/09	31.5				
12/29/09	33.3				
12/30/09	33.7				
12/31/09	31.0				
1/1/10	30.9				
1/2/10	32.8				
1/3/10	32.5				
1/4/10	32.9				
1/5/10	32.4	0.80	98%		

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
1/6/10	31.5				
1/7/10	33.2				
1/8/10	33.7				
1/9/10	32.9				
1/10/10	31.9				
1/11/10	32.4				
1/12/10	33.5				
1/13/10	30.7				
1/14/10	31.9				
1/15/10	29.1				
1/16/10	30.3				
1/17/10	30.0				
1/18/10	29.5				
1/19/10	25.4				
1/20/10	17.8				
1/20/10	19.5				
1/21/10	19.3				
1/22/10	19.6				
1/23/10	21.1				
1/24/10	25.2				
1/25/10	26.9				
1/26/10	26.0				
1/27/10	25.9				
1/28/10	27.3				
1/29/10	28.4				
1/30/10	27.4				
1/31/10	27.1				
2/1/10	30.1				
2/2/10	29.9				
2/3/10	30.5	0.60	98%		
2/4/10	29.3				
2/5/10	26.6				
2/6/10	24.8				
2/7/10	29.1				
2/8/10	28.4				
2/9/10	28.0				
2/10/10	28.9				
2/11/10	28.9				
2/12/10	28.9				
2/13/10	29.0				
2/14/10	29.9				
2/15/10	30.5				
2/16/10	30.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
2/17/10	31.1				
2/18/10	29.4				
2/19/10	32.5				
2/20/10	34.7				
2/21/10	33.8				
2/22/10	35.4				
2/23/10	41.8 *				
2/24/10	36.3				
2/25/10	37.1				
2/26/10	30.3				
2/27/10	27.2				
2/28/10	29.8				
3/1/10	30.6	0.60	98%		
3/2/10	32.1				
3/3/10	28.0				
3/4/10	28.1				
3/5/10	28.1				
3/6/10	29.2				
3/7/10	30.5				
3/8/10	31.3				
3/9/10	31.8				
3/10/10	31.4				
3/11/10	29.5				
3/12/10	31.3				
3/13/10	29.4				
3/14/10	31.6				
3/15/10	31.7				
3/16/10	29.5				
3/17/10	28.4				
3/18/10	31.8				
3/19/10	32.6				
3/20/10	30.6				
3/21/10	31.2				
3/22/10	32.1				
3/23/10	35.4				
3/24/10	33.8				
3/25/10	37.2				
3/26/10	39.8				
3/27/10	36.2				
3/28/10	33.3				
3/29/10	36.1				
3/30/10	36.9				
3/31/10	37.3				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
4/1/10	36.6				
4/2/10	38.1				
4/3/10	33.3				
4/4/10	32.9				
4/5/10	33.8	0.90	97%		
4/6/10	33.0				
4/7/10	33.7				
4/8/10	31.7				
4/9/10	31.8				
4/10/10	30.4				
4/11/10	30.7				
4/12/10	25.7				
4/13/10	27.1				
4/14/10	28.8				
4/15/10	32.8				
4/16/10	30.0				
4/17/10	30.0				
4/18/10	28.5				
4/19/10	29.0				
4/20/10	26.9	2.60	90%		
4/21/10	32.3				
4/22/10	30.7				
4/23/10	29.7				
4/24/10	28.6				
4/25/10	28.1				
4/26/10	31.7				
4/27/10	35.0				
4/28/10	36.1				
4/29/10	34.1				
4/30/10	35.3				
5/1/10	33.8				
5/2/10	34.5				
5/3/10	33.9				
5/4/10	31.3				
5/5/10	31.5				
5/6/10	29.9	0.40	99%		
5/7/10	30.8				
5/8/10	30.8				
5/9/10	31.4				
5/10/10	30.3				
5/11/10	30.3				
5/12/10	31.5				
5/13/10	32.2				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
5/14/10	31.3				
5/15/10	30.9				
5/16/10	30.5				
5/17/10	31.8				
5/18/10	34.5				
5/19/10	33.1				
5/20/10	34.6				
5/21/10	31.3				
5/22/10	34.2				
5/23/10	27.6				
5/24/10	29.4				
5/25/10	32.6				
5/26/10	33.5				
5/27/10	32.7				
5/28/10	32.4				
5/29/10	29.0				
5/30/10	28.8				
5/31/10	30.8				
6/1/10	30.4				
6/2/10	28.5	1.00	96%		
6/3/10	30.3				
6/4/10	27.5				
6/5/10	25.7				
6/6/10	29.3				
6/7/10	33.4				
6/8/10	31.0				
6/9/10	31.5				
6/10/10	30.9				
6/11/10	27.3				
6/12/10	26.3				
6/13/10	27.6				
6/14/10	29.6				
6/15/10	30.0				
6/16/10	29.8				
6/17/10	26.8				
6/18/10	32.8				
6/19/10	31.2				
6/20/10	31.8				
6/21/10	31.8				
6/22/10	31.0				
6/23/10	24.2				
6/24/10	30.3				
6/25/10	27.9				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
6/26/10	28.1				
6/27/10	27.1				
6/28/10	30.1				
6/29/10	26.5				
6/30/10	26.9				
7/1/10	23.7				
7/2/10	28.2				
7/3/10	34.5				
7/4/10	28.1				
7/5/10	29.9				
7/6/10	31.8				
7/7/10	29.0				
7/8/10	28.8	0.70	98%		
7/9/10	33.5				
7/10/10	32.4				
7/11/10	30.0				
7/12/10	30.5				
7/13/10	35.1				
7/14/10	32.6				
7/15/10	24.5				
7/16/10	27.2				
7/17/10	30.5				
7/18/10	30.3				
7/19/10	30.6				
7/20/10	30.9				
7/21/10	25.1				
7/22/10	28.0				
7/23/10	29.5				
7/24/10	26.5				
7/25/10	28.9				
7/26/10	36.0				
7/27/10	36.0				
7/28/10	32.5				
7/29/10	31.2				
7/30/10	30.3				
7/31/10	25.9				
8/1/10	32.5				
8/2/10	29.4	0.70	98%		
8/3/10	28.4				
8/4/10	29.9				
8/5/10	30.5				
8/6/10	32.2				
8/7/10	33.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
8/8/10	30.4				
8/9/10	31.4				
8/10/10	33.2				
8/11/10	32.6				
8/12/10	30.8				
8/13/10	30.4				
8/14/10	28.2				
8/15/10	32.6				
8/16/10	30.2				
8/17/10	27.2				
8/18/10	28.3				
8/19/10	30.3				
8/20/10	30.8				
8/21/10	26.0				
8/22/10	31.6				
8/23/10	28.6				
8/24/10	27.9				
8/25/10	26.9				
8/26/10	28.8				
8/27/10	31.0				
8/28/10	31.0				
8/29/10	31.8				
8/30/10	30.0				
8/31/10	29.0				
9/1/10	28.9	0.70	98%		
9/2/10	31.9				
9/3/10	29.5				
9/4/10	29.1				
9/5/10	26.7				
9/6/10	28.6				
9/7/10	28.6				
9/8/10	30.8				
9/9/10	31.5				
9/10/10	29.9				
9/11/10	29.6				
9/12/10	30.2				
9/13/10	29.3				
9/14/10	30.6				
9/15/10	25.1				
9/16/10	27.9				
9/17/10	29.2				
9/18/10	27.0				
9/19/10	28.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
9/20/10	30.9				
9/21/10	28.9				
9/22/10	29.3				
9/23/10	31.8				
9/24/10	32.8				
9/25/10	30.6				
9/26/10	31.2				
9/27/10	33.5				
9/28/10	30.6				
9/29/10	30.6				
9/30/10	28.9				
10/1/10	31.3				
10/2/10	34.2				
10/3/10	37.2				
10/4/10	33.4				
10/5/10	29.2	0.50	98%		
10/6/10	33.6				
10/7/10	31.4				
10/8/10	27.8				
10/9/10	26.7				
10/10/10	28.3				
10/11/10	27.9				
10/12/10	27.2				
10/13/10	29.2				
10/14/10	27.5				
10/15/10	29.4				
10/16/10	28.9				
10/17/10	30.2				
10/18/10	31.3				
10/19/10	31.5				
10/20/10	30.3				
10/21/10	28.4				
10/22/10	29.8				
10/23/10	29.6				
10/24/10	30.4				
10/25/10	29.1				
10/26/10	32.4				
10/27/10	34.2				
10/28/10	32.6				
10/29/10	30.9				
10/30/10	31.4				
10/31/10	33.0				
11/1/10	33.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
11/2/10	32.4				
11/3/10	33.0	0.50	98%		
11/4/10	29.4				
11/5/10	27.6				
11/6/10	29.1				
11/7/10	28.3				
11/8/10	32.7				
11/9/10	34.3				
11/10/10	28.8				
11/11/10	32.4				
11/12/10	34.2				
11/13/10	32.4				
11/14/10	32.3				
11/15/10	29.1				
11/16/10	31.3				
11/17/10	29.8				
11/18/10	32.9				
11/19/10	32.5				
11/20/10	28.3				
11/21/10	28.3				
11/22/10	30.2				
11/23/10	33.0				
11/24/10	30.2				
11/25/10	28.2				
11/26/10	34.6				
11/27/10	30.4				
11/28/10	30.8				
11/29/10	29.5				
11/30/10	30.2				
12/1/10	30.4				
12/2/10	30.1	1.20	96%		
12/3/10	32.4				
12/4/10	29.9				
12/5/10	29.4				
12/6/10	28.7				
12/7/10	30.9				
12/8/10	35.7				
12/9/10	35.2				
12/10/10	43.8 *				
12/11/10	28.2				
12/12/10	36.8				
12/13/10	37.4				
12/14/10	34.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
12/15/10	32.2				
12/16/10	31.2				
12/17/10	32.2				
12/18/10	31.9				
12/19/10	30.9				
12/20/10	32.6				
12/21/10	32.6				
12/22/10	28.6				
12/23/10	31.2				
12/24/10	29.7				
12/25/10	34.3				
12/26/10	35.6				
12/27/10	35.4				
12/28/10	37.2				
12/29/10	32.9				
12/30/10	33.7				
12/31/10	30.1				
1/1/11	30.4				
1/2/11	34.4				
1/3/11	33.0				
1/4/11	34.0				
1/5/11	30.6				
1/6/11	30.0	0.60	98%		
1/7/11	32.6				
1/8/11	33.9				
1/9/11	33.2				
1/10/11	32.6				
1/11/11	32.4				
1/12/11	31.4				
1/13/11	31.0				
1/14/11	33.2				
1/15/11	33.3				
1/16/11	30.5				
1/17/11	31.4				
1/18/11	28.4				
1/19/11	30.8				
1/20/11	29.8				
1/21/11	28.6				
1/22/11	30.2				
1/23/11	29.6				
1/24/11	31.2				
1/25/11	32.1				
1/26/11	32.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
1/27/11	29.4				
1/28/11	31.4				
1/29/11	28.8				
1/30/11	26.0				
1/31/11	27.4				
2/1/11	29.0				
2/2/11	30.8	0.70	98%		
2/3/11	29.6				
2/4/11	31.4				
2/5/11	27.3				
2/6/11	29.7				
2/7/11	30.1				
2/8/11	30.7				
2/9/11	30.2				
2/10/11	29.8				
2/11/11	29.0				
2/12/11	28.5				
2/13/11	28.1				
2/14/11	28.5				
2/15/11	28.0				
2/16/11	27.7				
2/17/11	25.9				
2/18/11	22.2				
2/19/11	21.0				
2/20/11	21.7				
2/21/11	26.0				
2/22/11	25.1				
2/23/11	27.7				
2/24/11	25.6				
2/25/11	24.1				
2/26/11	25.9				
2/27/11	27.7				
2/28/11	27.7				
3/1/11	27.4	0.90	97%		
3/2/11	29.6				
3/3/11	31.6				
3/4/11	27.2				
3/5/11	33.3				
3/6/11	26.4				
3/7/11	27.9				
3/8/11	35.4				
3/9/11	33.8				
3/10/11	33.1				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
3/11/11	30.2				
3/12/11	29.0				
3/13/11	30.2				
3/14/11	30.9				
3/15/11	29.6				
3/16/11	32.9				
3/17/11	31.8				
3/18/11	30.6				
3/19/11	25.4				
3/20/11	22.4				
3/21/11	25.5				
3/22/11	27.0				
3/23/11	23.9				
3/24/11	25.3				
3/25/11	24.7				
3/26/11	23.5				
3/27/11	24.7				
3/28/11	26.0				
3/29/11	26.0				
3/30/11	26.8				
3/31/11	28.0				
4/1/11	26.4				
4/2/11	25.5				
4/3/11	28.0				
4/4/11	26.8	1.30	95%		
4/5/11	28.8				
4/6/11	29.0				
4/7/11	29.6				
4/8/11	29.8				
4/9/11	28.0				
4/10/11	30.0				
4/11/11	30.1				
4/12/11	29.9				
4/13/11	31.2				
4/14/11	30.1				
4/15/11	27.8				
4/16/11	27.8				
4/17/11	27.4				
4/18/11	27.2				
4/19/11	27.2				
4/20/11	27.8				
4/21/11	27.0				
4/22/11	30.1				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
4/23/11	28.5				
4/24/11	28.8				
4/25/11	30.2				
4/26/11	28.2				
4/27/11	31.4				
4/28/11	30.2				
4/29/11	31.0				
4/30/11	31.0				
5/1/11	30.0				
5/2/11	29.8				
5/3/11	30.0	0.50	98%		
5/4/11	28.4				
5/5/11	28.8				
5/6/11	31.5				
5/7/11	31.5				
5/8/11	28.6				
5/9/11	31.6				
5/10/11	30.4				
5/11/11	32.0				
5/12/11	32.8				
5/13/11	32.2				
5/14/11	31.0				
5/15/11	30.0				
5/16/11	30.5				
5/17/11	30.4				
5/18/11	29.6				
5/19/11	26.4				
5/20/11	28.7				
5/21/11	28.8				
5/22/11	26.6				
5/23/11	29.4				
5/24/11	30.0				
5/25/11	29.8				
5/26/11	28.7				
5/27/11	29.7				
5/28/11	28.6				
5/29/11	27.7				
5/30/11	30.4				
5/31/11	28.8				
6/1/11	32.4				
6/2/11	31.4				
6/3/11	32.9				
6/4/11	30.9				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
6/5/11	31.1				
6/6/11	32.0				
6/7/11	33.9				
6/8/11	31.9				
6/9/11	32.4				
6/10/11	36.6				
6/11/11	28.7				
6/12/11	28.2	0.40	99%		
6/13/11	32.6				
6/14/11	28.5				
6/15/11	29.5				
6/16/11	27.6				
6/17/11	29.5				
6/18/11	27.5				
6/19/11	30.9				
6/20/11	30.0				
6/21/11	28.2				
6/22/11	29.8				
6/23/11	30.5				
6/24/11	29.1				
6/25/11	28.1				
6/26/11	29.1				
6/27/11	31.6				
6/28/11	29.6				
6/29/11	30.5				
6/30/11	28.9				
7/1/11	28.1				
7/2/11	27.2				
7/3/11	26.7				
7/4/11	27.5				
7/5/11	28.7				
7/6/11	28.1	0.30	99%		
7/7/11	29.8				
7/8/11	28.4				
7/9/11	30.1				
7/10/11	31.6				
7/11/11	30.8				
7/12/11	28.9				
7/13/11	29.2				
7/14/11	30.4				
7/15/11	31.8				
7/16/11	28.1				
7/17/11	29.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
7/18/11	30.4				
7/19/11	31.3				
7/20/11	30.8				
7/21/11	30.8				
7/22/11	29.7				
7/23/11	31.7				
7/24/11	29.6				
7/25/11	31.3				
7/26/11	29.1				
7/27/11	29.8				
7/28/11	28.6				
7/29/11	28.1				
7/30/11	27.9				
7/31/11	28.2				
8/1/11	31.8	0.60	98%		
8/2/11	29.1				
8/3/11	30.8				
8/4/11	30.5				
8/5/11	29.9				
8/6/11	28.9				
8/7/11	29.7				
8/8/11	31.8				
8/9/11	32.1				
8/10/11	33.3				
8/11/11	33.5				
8/12/11	32.0				
8/13/11	33.3				
8/14/11	34.0				
8/15/11	33.8				
8/16/11	32.6				
8/17/11	32.9				
8/18/11	32.9				
8/19/11	32.8				
8/20/11	31.0				
8/21/11	32.3				
8/22/11	36.6				
8/23/11	30.6				
8/24/11	32.4				
8/25/11	29.6				
8/26/11	28.5				
8/27/11	30.8				
8/28/11	31.8				
8/29/11	31.9				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
8/30/11	31.2				
8/31/11	30.1				
9/1/11	30.6	0.50	98%		
9/2/11	29.0				
9/3/11	27.8				
9/4/11	32.8				
9/5/11	30.3				
9/6/11	30.7				
9/7/11	30.1				
9/8/11	32.1				
9/9/11	31.7				
9/10/11	26.8				
9/11/11	31.4				
9/12/11	31.1				
9/13/11	27.5				
9/14/11	29.8				
9/15/11	30.2				
9/16/11	31.5				
9/17/11	28.6				
9/18/11	32.6				
9/19/11	31.4				
9/20/11	31.5				
9/21/11	30.9				
9/22/11	29.0				
9/23/11	29.8				
9/24/11	30.8				
9/25/11	30.0				
9/26/11	31.5				
9/27/11	30.2				
9/28/11	30.2				
9/29/11	30.7				
9/30/11	31.4				
10/1/11	28.9				
10/2/11	31.2				
10/3/11	31.5				
10/4/11	31.1	0.50	98%		
10/5/11	29.1				
10/6/11	28.3				
10/7/11	31.2				
10/8/11	30.2				
10/9/11	28.9				
10/10/11	31.0				
10/11/11	28.8				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
10/12/11	30.1				
10/13/11	30.4				
10/14/11	30.6				
10/15/11	30.9				
10/16/11	30.3				
10/17/11	31.5				
10/18/11	27.0				
10/19/11	29.8				
10/20/11	32.1				
10/21/11	33.0				
10/22/11	28.2				
10/23/11	34.8				
10/24/11	33.8				
10/25/11	32.2				
10/26/11	30.6				
10/27/11	30.3				
10/28/11	30.0				
10/29/11	29.7				
10/30/11	36.8				
10/31/11	31.0				
11/1/11	33.8				
11/2/11	30.8				
11/3/11	31.7	0.60	98%		
11/4/11	33.4				
11/5/11	30.6				
11/6/11	30.4				
11/7/11	33.4				
11/8/11	31.9				
11/9/11	32.6				
11/10/11	34.5				
11/11/11	31.2				
11/12/11	32.8				
11/13/11	31.4				
11/14/11	32.0				
11/15/11	31.8				
11/16/11	32.5				
11/17/11	29.6				
11/18/11	29.8				
11/19/11	29.8				
11/20/11	29.0				
11/21/11	30.9				
11/22/11	29.9				
11/23/11	31.0				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
11/24/11	29.4				
11/25/11	35.4				
11/26/11	35.4				
11/27/11	30.4				
11/28/11	32.1				
11/29/11	31.5				
11/30/11	32.1				
12/1/11	34.4				
12/2/11	31.9				
12/3/11	31.1				
12/4/11	30.0				
12/5/11	33.2	2.60	92%		
12/6/11	32.7				
12/7/11	31.8				
12/8/11	30.0				
12/9/11	31.3				
12/10/11	31.2				
12/11/11	32.2				
12/12/11	33.6				
12/13/11	32.2				
12/14/11	33.4				
12/15/11	34.8				
12/16/11	30.6				
12/17/11	29.6				
12/18/11	30.7				
12/19/11	30.7				
12/20/11	30.8				
12/21/11	30.3				
12/22/11	29.9				
12/23/11	32.1				
12/24/11	31.5				
12/25/11	29.6				
12/26/11	32.2				
12/27/11	35.4				
12/28/11	30.0				
12/29/11	30.6				
12/30/11	28.5				
12/31/11	29.0				
1/1/12	30.0				
1/2/12	30.3				
1/3/12	30.9				
1/4/12	31.2	2.50	92%		
1/5/12	31.6				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
1/6/12	31.7				
1/7/12	31.0				
1/8/12	31.8				
1/9/12	33.5				
1/10/12	33.0				
1/11/12	32.8				
1/12/12	28.2				
1/13/12	33.4				
1/14/12	28.4				
1/15/12	33.2				
1/16/12	33.8				
1/17/12	31.4				
1/18/12	33.6				
1/19/12	34.2				
1/20/12	35.2				
1/21/12	27.0				
1/22/12	31.4				
1/23/12	30.4				
1/24/12	31.2				
1/25/12	32.8				
1/26/12	29.8				
1/27/12	30.8				
1/28/12	36.4				
1/29/12	33.0				
1/30/12	35.6				
1/31/12	32.6				
2/1/12	33.2				
2/2/12	30.9				
2/3/12	30.4				
2/4/12	30.4				
2/5/12	31.0				
2/6/12	28.6	0.60	98%		
2/7/12	31.4				
2/8/12	30.8				
2/9/12	32.0				
2/10/12	31.8				
2/11/12	31.0				
2/12/12	32.6				
2/13/12	33.0				
2/14/12	31.0				
2/15/12	31.8				
2/16/12	32.0				
2/17/12	32.3				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
2/18/12	32.0				
2/19/12	33.0				
2/20/12	31.4				
2/21/12	29.0				
2/22/12	31.4				
2/23/12	30.4				
2/24/12	29.8				
2/25/12	31.2				
2/26/12	31.2				
2/27/12	32.8				
2/28/12	32.8				
2/29/12	32.8				
3/1/12	33.2	0.16	100%		
3/2/12	30.2				
3/3/12	32.6				
3/4/12	31.2				
3/5/12	31.6				
3/6/12	33.0				
3/7/12	30.4				
3/8/12	31.6				
3/9/12	28.4				
3/10/12	30.2				
3/11/12	31.2				
3/12/12	30.6				
3/13/12	31.4				
3/14/12	31.8				
3/15/12	32.0				
3/16/12	31.0				
3/17/12	28.8				
3/18/12	28.2				
3/19/12	29.4				
3/20/12	31.2				
3/21/12	31.8				
3/22/12	31.8				
3/23/12	31.8				
3/24/12	29.2				
3/25/12	27.0				
3/26/12	29.2				
3/27/12	29.8				
3/28/12	28.0				
3/29/12	27.4				
3/30/12	28.4				
3/31/12	27.4				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
4/1/12	28.4				
4/2/12	28.4				
4/3/12	26.8				
4/4/12	27.2				
4/5/12	29.7	0.002	99.99%		
4/6/12	28.2				
4/7/12	25.8				
4/8/12	26.6				
4/9/12	28.8				
4/10/12	29.2				
4/11/12	29.0				
4/12/12	27.0				
4/13/12	24.4				
4/14/12	25.0				
4/15/12	28.2				
4/16/12	28.4				
4/17/12	29.8				
4/18/12	30.0				
4/19/12	28.8				
4/20/12	28.4				
4/21/12	27.2				
4/22/12	30.0				
4/23/12	31.4				
4/24/12	33.8				
4/25/12	34.8				
4/26/12	35.4				
4/27/12	33.0				
4/28/12	26.8				
4/29/12	30.6				
4/30/12	30.0				
5/1/12	32.4	0.40	99%		
5/2/12	33.6				
5/3/12	33.8				
5/4/12	31.2				
5/5/12	29.8				
5/6/12	32.0				
5/7/12	31.8				
5/8/12	30.8				
5/9/12	32.2				
5/10/12	32.0				
5/11/12	30.4				
5/12/12	30.6				
5/13/12	32.5				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
5/14/12	34.4				
5/15/12	34.6				
5/16/12	34.8				
5/17/12	32.9				
5/18/12	35.6				
5/19/12	30.2				
5/20/12	33.6				
5/21/12	38.0				
5/22/12	31.0				
5/23/12	32.6				
5/24/12	30.8				
5/25/12	32.6				
5/26/12	30.0				
5/27/12	33.7				
5/28/12	32.6				
5/29/12	31.2				
5/30/12	33.8				
5/31/12	34.3				
6/1/12	32.8	0.60	98%		
6/2/12	33.6				
6/3/12	34.6				
6/4/12	37.3				
6/5/12	37.7				
6/6/12	38.5				
6/7/12	36.4				
6/8/12	33.6				
6/9/12	33.8				
6/10/12	34.7				
6/11/12	34.1				
6/12/12	33.9				
6/13/12	35.3				
6/14/12	32.9				
6/15/12	32.8				
6/16/12	30.4				
6/17/12	31.3				
6/18/12	33.4				
6/19/12	34.8				
6/20/12	34.9				
6/21/12	34.2				
6/22/12	31.0				
6/23/12	27.4				
6/24/12	32.3				
6/25/12	30.2				

Table B-15: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Ammonia

Date	Ammonia Influent (mg/L)	Ammonia Final Effluent (mg/L)	Ammonia Percent Removal	Percent Removal in Order	Rank
6/26/12	35.1				
6/27/12	31.6				
6/28/12	34.0				
6/29/12	31.6				

*Asterisks indicate influent data removed due to being above 2.98 standard deviations or 39.8 mg/L; therefore, considered outliers.

<u>Ammonia Removal Rate Calculations</u>

Total Number of Samples	68
Median =	98%
ADRE =	**97%**
MRE =	**97%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 68(0.3) =	20
Used linear regression to compute the appropriate percentile	
X = 3rd decile removal rate	
3rd Decile Removal Rate =	**98%**

<u>Maximum and Average Values</u>

Maximum Raw Sewage (mg/L) =	**39.8**
Average Raw Sewage (mg/L) =	**30.9**
Maximum Final Effluent (mg/L) =	**5.10**
Average Final Effluent (mg/L) =	**0.78**

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
1/1/08	493	4	99.2%	97.3%	1
1/3/08	345	3	99.1%	97.5%	2
1/6/08	293	5	98.3%	97.5%	3
1/8/08	363	5	98.6%	97.7%	4
1/10/08	282	4	98.6%	97.8%	5
1/13/08	380	3	99.2%	97.8%	6
1/15/08	369	5	98.6%	97.9%	7
1/17/08	452	4	99.1%	97.9%	8
1/20/08	386	4	99.0%	98.0%	9
1/22/08	403	4	99.0%	98.0%	10
1/24/08	375	3	99.2%	98.0%	11
1/27/08	357	4	98.9%	98.0%	12
1/29/08	418	6	98.6%	98.1%	13
1/31/08	373	2	99.5%	98.1%	14
2/3/08	350	3	99.1%	98.1%	15
2/5/08	386	4	99.0%	98.1%	16
2/7/08	373	4	98.9%	98.2%	17
2/10/08	403	5	98.8%	98.2%	18
2/12/08	428	2	99.5%	98.2%	19
2/14/08	399	5	98.7%	98.2%	20
2/17/08	329	4	98.8%	98.2%	21
2/19/08	410	4	99.0%	98.3%	22
2/21/08	463	6	98.7%	98.3%	23
2/26/08	425	4	99.1%	98.3%	24
2/28/08	299	4	98.7%	98.3%	25
3/2/08	429	3	99.3%	98.4%	26
3/4/08	319	3	99.1%	98.4%	27
3/6/08	149	4	97.3%	98.4%	28
3/9/08		3		98.4%	29
3/11/08	235	3	98.7%	98.4%	30
3/13/08	381	2	99.5%	98.4%	31
3/16/08	300	4	98.7%	98.4%	32
3/18/08	387	3	99.2%	98.4%	33
3/20/08	321	3	99.1%	98.4%	34
3/23/08	327	4	98.8%	98.4%	35
3/25/08	471	4	99.2%	98.4%	36
3/27/08	382	4	99.0%	98.4%	37
3/30/08	253	5	98.0%	98.5%	38
4/1/08	359	4	98.9%	98.5%	39
4/3/08	325	4	98.8%	98.5%	40
4/6/08	304	4	98.7%	98.5%	41
4/8/08	319	5	98.4%	98.5%	42
4/10/08	394	5	98.7%	98.5%	43
4/13/08	453	5	98.9%	98.5%	44

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
4/15/08	366	5	98.6%	98.5%	45
4/17/08	380	4	98.9%	98.5%	46
4/20/08	369	4	98.9%	98.5%	47
4/22/08	444	4	99.1%	98.5%	48
4/24/08	339	5	98.5%	98.6%	49
4/27/08	314	6	98.1%	98.6%	50
4/29/08	347	4	98.8%	98.6%	51
5/1/08	326	4	98.8%	98.6%	52
5/4/08	346	4	98.8%	98.6%	53
5/6/08	429	3	99.3%	98.6%	54
5/8/08	423	4	99.1%	98.6%	55
5/11/08	420	4	99.0%	98.6%	56
5/13/08	388	4	99.0%	98.6%	57
5/15/08	373			98.6%	58
5/18/08	392	3	99.2%	98.6%	59
5/25/08	408	5	98.8%	98.6%	60
5/27/08	376	5	98.7%	98.6%	61
5/29/08	380	4	98.9%	98.6%	62
6/1/08	430	3	99.3%	98.6%	63
6/3/08	407	3	99.3%	98.6%	64
6/5/08	510*	3		98.6%	65
6/8/08	418	3	99.3%	98.6%	66
6/10/08	447	4	99.1%	98.6%	67
6/12/08	418	4	99.0%	98.6%	68
6/15/08	368	4	98.9%	98.6%	69
6/17/08	409	4	99.0%	98.6%	70
6/19/08	307	3	99.0%	98.6%	71
6/22/08	387	2	99.5%	98.6%	72
6/24/08	376	3	99.2%	98.6%	73
6/26/08	299	3	99.0%	98.6%	74
7/1/08	371	3	99.2%	98.6%	75
7/6/08	224	3	98.7%	98.7%	76
7/8/08	313	4	98.7%	98.7%	77
7/10/08	317	3	99.1%	98.7%	78
7/13/08	285	3	98.9%	98.7%	79
7/15/08	393	4	99.0%	98.7%	80
7/17/08	315	4	98.7%	98.7%	81
7/20/08	245	2	99.2%	98.7%	82
7/22/08	264	3	98.9%	98.7%	83
7/24/08	293	3	99.0%	98.7%	84
7/27/08	304	4	98.7%	98.7%	85
7/29/08	288	3	99.0%	98.7%	86
7/31/08	300	3	99.0%	98.7%	87
8/3/08	327	3	99.1%	98.7%	88

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
8/5/08	320	2	99.4%	98.7%	89
8/7/08	346	2	99.4%	98.7%	90
8/10/08	300	3	99.0%	98.7%	91
8/12/08	362	3	99.2%	98.7%	92
8/14/08	366	3	99.2%	98.7%	93
8/17/08	378	4	98.9%	98.7%	94
8/19/08	375	3	99.2%	98.7%	95
8/21/08	359	2	99.4%	98.7%	96
8/24/08	332	1	99.7%	98.7%	97
8/26/08	274	2	99.3%	98.7%	98
8/28/08	182	3	98.4%	98.7%	99
8/31/08	325	3	99.1%	98.7%	100
9/2/08	224	1	99.6%	98.7%	101
9/4/08	297	3	99.0%	98.7%	102
9/7/08	451	2	99.6%	98.7%	103
9/9/08	278	2	99.3%	98.7%	104
9/11/08	324	3	99.1%	98.7%	105
9/14/08	340	2	99.4%	98.7%	106
9/16/08	315	3	99.0%	98.7%	107
9/18/08	346	3	99.1%	98.7%	108
9/21/08	300	3	99.0%	98.8%	109
9/23/08	303	3	99.0%	98.8%	110
9/25/08	324	3	99.1%	98.8%	111
9/28/08	311	3	99.0%	98.8%	112
9/30/08	331	3	99.1%	98.8%	113
10/2/08	345	3	99.1%	98.8%	114
10/5/08	292	4	98.6%	98.8%	115
10/7/08	375	3	99.2%	98.8%	116
10/9/08	383	3	99.2%	98.8%	117
10/12/08	405	1	99.8%	98.8%	118
10/14/08	330	3	99.1%	98.8%	119
10/16/08	310	3	99.0%	98.8%	120
10/19/08	312	2	99.4%	98.8%	121
10/21/08	376	3	99.2%	98.8%	122
10/23/08	318	3	99.1%	98.8%	123
10/26/08	394	3	99.2%	98.8%	124
10/28/08	254	3	98.8%	98.8%	125
10/30/08	316	3	99.1%	98.8%	126
11/1/08	306			98.8%	127
11/2/08	295	3	99.0%	98.8%	128
11/3/08	290			98.8%	129
11/4/08	630*	3		98.8%	130
11/5/08	360			98.8%	131
11/6/08	340	3	99.1%	98.8%	132

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
11/7/08	330			98.8%	133
11/8/08	345			98.8%	134
11/9/08	371	3	99.2%	98.8%	135
11/10/08	346			98.8%	136
11/11/08	295	4	98.6%	98.8%	137
11/12/08	404			98.8%	138
11/13/08	182	3	98.4%	98.8%	139
11/14/08	371			98.8%	140
11/15/08	305			98.8%	141
11/16/08	301	4	98.7%	98.8%	142
11/17/08	380			98.9%	143
11/18/08	271	4	98.5%	98.9%	144
11/20/08	538*	5		98.9%	145
11/23/08	364	4	98.9%	98.9%	146
11/25/08	465	6	98.7%	98.9%	147
11/30/08	318	5	98.4%	98.9%	148
12/2/08	357	8	97.8%	98.9%	149
12/4/08	426	4	99.1%	98.9%	150
12/7/08	377	4	98.9%	98.9%	151
12/9/08	356	5	98.6%	98.9%	152
12/11/08	313	6	98.1%	98.9%	153
12/14/08	364	5	98.6%	98.9%	154
12/16/08	387	4	99.0%	98.9%	155
12/18/08	275	5	98.2%	98.9%	156
12/21/08	322	5	98.4%	98.9%	157
12/23/08	405	5	98.8%	98.9%	158
12/25/08	436	5	98.9%	98.9%	159
12/28/08	430	6	98.6%	98.9%	160
12/30/08	375	2	99.5%	98.9%	161
1/1/09	408	5	98.8%	98.9%	162
1/4/09	388	6	98.5%	98.9%	163
1/6/09	361	5	98.6%	98.9%	164
1/8/09	316	5	98.4%	98.9%	165
1/11/09	264	3	98.9%	98.9%	166
1/13/09	388	4	99.0%	98.9%	167
1/15/09	438	4	99.1%	98.9%	168
1/18/09	425	4	99.1%	98.9%	169
1/20/09	432	5	98.8%	98.9%	170
1/22/09	400	4	99.0%	98.9%	171
1/25/09	452	5	98.9%	98.9%	172
1/27/09	419	4	99.0%	98.9%	173
1/29/09	428	5	98.8%	98.9%	174
2/1/09	427	4	99.1%	98.9%	175
2/3/09	462	5	98.9%	98.9%	176

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
2/5/09	416	6	98.6%	98.9%	177
2/8/09	351	5	98.6%	98.9%	178
2/10/09	450	5	98.9%	98.9%	179
2/12/09	499	5	99.0%	98.9%	180
2/15/09	356	2	99.4%	98.9%	181
2/17/09	461	6	98.7%	98.9%	182
2/19/09	432	5	98.8%	98.9%	183
2/22/09	386	4	99.0%	98.9%	184
2/24/09	365	4	98.9%	98.9%	185
2/26/09	405	3	99.3%	98.9%	186
3/1/09	408	5	98.8%	98.9%	187
3/3/09	430	6	98.6%	98.9%	188
3/5/09	466	4	99.1%	98.9%	189
3/8/09	347	4	98.8%	98.9%	190
3/10/09	464	5	98.9%	98.9%	191
3/12/09	333	4	98.8%	98.9%	192
3/15/09	400	6	98.5%	98.9%	193
3/17/09	376	8	97.9%	98.9%	194
3/19/09	421	6	98.6%	98.9%	195
3/22/09	353	9	97.5%	98.9%	196
3/24/09	311	7	97.7%	98.9%	197
3/26/09	512*	6		98.9%	198
3/29/09	420	5	98.8%	98.9%	199
3/31/09	346	7	98.0%	98.9%	200
4/2/09	411	6	98.5%	98.9%	201
4/5/09	352	7	98.0%	98.9%	202
4/7/09	361	7	98.1%	98.9%	203
4/9/09	322	5	98.4%	98.9%	204
4/12/09	292	6	97.9%	99.0%	205
4/14/09	272	6	97.8%	99.0%	206
4/16/09	285	7	97.5%	99.0%	207
4/19/09	306	6	98.0%	99.0%	208
4/21/09	327	6	98.2%	99.0%	209
4/23/09	329	6	98.2%	99.0%	210
4/26/09	362	6	98.3%	99.0%	211
4/28/09	377	5	98.7%	99.0%	212
4/30/09	320	6	98.1%	99.0%	213
5/3/09	344	6	98.3%	99.0%	214
5/5/09	373	6	98.4%	99.0%	215
5/7/09	402	6	98.5%	99.0%	216
5/10/09	305	5	98.4%	99.0%	217
5/12/09	307	5	98.4%	99.0%	218
5/14/09	344	5	98.5%	99.0%	219
5/17/09	386	5	98.7%	99.0%	220

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
5/19/09	371	4	98.9%	99.0%	221
5/21/09	384	4	99.0%	99.0%	222
5/24/09	371	5	98.7%	99.0%	223
5/26/09	385	5	98.7%	99.0%	224
5/28/09	425	4	99.1%	99.0%	225
5/31/09	313	4	98.7%	99.0%	226
6/2/09	406	5	98.8%	99.0%	227
6/4/09	342	3	99.1%	99.0%	228
6/7/09	297	4	98.7%	99.0%	229
6/9/09	310	4	98.7%	99.0%	230
6/11/09	343	4	98.8%	99.0%	231
6/14/09	331	5	98.5%	99.0%	232
6/16/09	318	3	99.1%	99.0%	233
6/18/09	374	3	99.2%	99.0%	234
6/21/09	447	4	99.1%	99.0%	235
6/23/09	369	4	98.9%	99.0%	236
6/25/09	372			99.0%	237
6/28/09	276	5	98.2%	99.0%	238
6/30/09	332	4	98.8%	99.0%	239
7/2/09	264	4	98.5%	99.0%	240
7/5/09	210	3	98.6%	99.0%	241
7/7/09	368	4	98.9%	99.0%	242
7/9/09	366	3	99.2%	99.0%	243
7/12/09	402	3	99.3%	99.0%	244
7/14/09	430	4	99.1%	99.0%	245
7/16/09	390	4	99.0%	99.0%	246
7/19/09	343	4	98.8%	99.0%	247
7/21/09	372	4	98.9%	99.0%	248
7/23/09	434	4	99.1%	99.0%	249
7/26/09	366	5	98.6%	99.0%	250
7/28/09	405	5	98.8%	99.0%	251
7/30/09	471	5	98.9%	99.0%	252
8/2/09	369	4	98.9%	99.0%	253
8/4/09	348	4	98.9%	99.0%	254
8/6/09	450	4	99.1%	99.0%	255
8/11/09	371	5	98.7%	99.0%	256
8/13/09	369	4	98.9%	99.0%	257
8/18/09	386	4	99.0%	99.0%	258
8/20/09	349	4	98.9%	99.0%	259
8/23/09	367	4	98.9%	99.0%	260
8/25/09	360	4	98.9%	99.0%	261
8/27/09	403	1	99.8%	99.0%	262
8/30/09	387	5	98.7%	99.0%	263
9/1/09	304	5	98.4%	99.0%	264

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
9/3/09	378	5	98.7%	99.0%	265
9/6/09	354	4	98.9%	99.0%	266
9/8/09	355	4	98.9%	99.0%	267
9/10/09	367	4	98.9%	99.1%	268
9/15/09	324	2	99.4%	99.1%	269
9/17/09	347	3	99.1%	99.1%	270
9/20/09	350	4	98.9%	99.1%	271
9/22/09	264	4	98.5%	99.1%	272
9/24/09	237	3	98.7%	99.1%	273
9/27/09	328	3	99.1%	99.1%	274
9/29/09	332	2	99.4%	99.1%	275
10/1/09	316	3	99.1%	99.1%	276
10/4/09	319	4	98.7%	99.1%	277
10/6/09	343	3	99.1%	99.1%	278
10/8/09	305	3	99.0%	99.1%	279
10/11/09	464	2	99.6%	99.1%	280
10/15/09	375	4	98.9%	99.1%	281
10/18/09	309	4	98.7%	99.1%	282
10/20/09	291	4	98.6%	99.1%	283
10/22/09	326	4	98.8%	99.1%	284
10/25/09	344	4	98.8%	99.1%	285
10/27/09	325	4	98.8%	99.1%	286
10/29/09	320	4	98.8%	99.1%	287
11/1/09	363	6	98.3%	99.1%	288
11/3/09	297	4	98.7%	99.1%	289
11/5/09	295	4	98.6%	99.1%	290
11/8/09	342	4	98.8%	99.1%	291
11/10/09	329	4	98.8%	99.1%	292
11/12/09	334	4	98.8%	99.1%	293
11/15/09	323	3	99.1%	99.1%	294
11/17/09	306	4	98.7%	99.1%	295
11/19/09	354	4	98.9%	99.1%	296
11/22/09	363	4	98.9%	99.1%	297
11/24/09	371	4	98.9%	99.1%	298
11/29/09	370	4	98.9%	99.1%	299
12/1/09	346	3	99.1%	99.1%	300
12/3/09	365	4	98.9%	99.1%	301
12/6/09	413	4	99.0%	99.1%	302
12/8/09	388	4	99.0%	99.1%	303
12/10/09	294	4	98.6%	99.1%	304
12/15/09	381	4	99.0%	99.1%	305
12/17/09	378	4	98.9%	99.1%	306
12/20/09	370	4	98.9%	99.1%	307
12/22/09	351	4	98.9%	99.1%	308

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
12/24/09	441	4	99.1%	99.1%	309
12/27/09	383	4	99.0%	99.1%	310
12/29/09	359	4	98.9%	99.1%	311
12/31/09	362	4	98.9%	99.1%	312
1/3/10	316	4	98.7%	99.1%	313
1/5/10	315	5	98.4%	99.1%	314
1/7/10	326	4	98.8%	99.1%	315
1/12/10	400	4	99.0%	99.1%	316
1/14/10	408	4	99.0%	99.1%	317
1/17/10	367	4	98.9%	99.1%	318
1/21/10	274	5	98.2%	99.1%	319
1/24/10	445	3	99.3%	99.1%	320
1/26/10	335	3	99.1%	99.1%	321
1/28/10	369	3	99.2%	99.1%	322
1/31/10	516*	3		99.1%	323
2/2/10	384	4	99.0%	99.1%	324
2/4/10	375	3	99.2%	99.1%	325
2/7/10	367	2	99.5%	99.1%	326
2/9/10	395	3	99.2%	99.1%	327
2/11/10	337	3	99.1%	99.1%	328
2/14/10	353	2	99.4%	99.1%	329
2/16/10	377	3	99.2%	99.1%	330
2/18/10	382	2	99.5%	99.1%	331
2/21/10	372	3	99.2%	99.1%	332
2/23/10	400	4	99.0%	99.1%	333
2/25/10	408	5	98.8%	99.1%	334
2/28/10	386	3	99.2%	99.1%	335
3/2/10	387	3	99.2%	99.1%	336
3/4/10		3		99.1%	337
3/7/10	410	3	99.3%	99.1%	338
3/9/10	394	4	99.0%	99.1%	339
3/11/10	456	2	99.6%	99.1%	340
3/14/10	371	3	99.2%	99.1%	341
3/16/10	392	3	99.2%	99.2%	342
3/18/10	428	3	99.3%	99.2%	343
3/21/10	460	1	99.8%	99.2%	344
3/23/10	391	2	99.5%	99.2%	345
3/25/10	449	2	99.6%	99.2%	346
3/28/10	429	2	99.5%	99.2%	347
3/30/10	323	2	99.4%	99.2%	348
4/1/10	503	3	99.4%	99.2%	349
4/4/10	424	3	99.3%	99.2%	350
4/6/10	369	3	99.2%	99.2%	351
4/8/10	448	2	99.6%	99.2%	352

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
4/11/10	398	3	99.2%	99.2%	353
4/13/10	387	3	99.2%	99.2%	354
4/15/10	416	3	99.3%	99.2%	355
4/18/10	386	5	98.7%	99.2%	356
4/20/10	353	4	98.9%	99.2%	357
4/22/10	319	4	98.7%	99.2%	358
4/25/10	336	2	99.4%	99.2%	359
4/27/10	384	3	99.2%	99.2%	360
4/29/10	425	1	99.8%	99.2%	361
5/2/10	432	3	99.3%	99.2%	362
5/4/10	452	3	99.3%	99.2%	363
5/6/10	530*	2		99.2%	364
5/9/10	382	3	99.2%	99.2%	365
5/11/10	423	2	99.5%	99.2%	366
5/13/10	454	2	99.6%	99.2%	367
5/16/10	411	2	99.5%	99.2%	368
5/18/10	389	2	99.5%	99.2%	369
5/20/10	433	1	99.8%	99.2%	370
5/23/10	451	1	99.8%	99.2%	371
5/25/10	421	2	99.5%	99.2%	372
5/27/10	447	2	99.6%	99.2%	373
5/30/10	393	2	99.5%	99.2%	374
6/1/10	413	2	99.5%	99.2%	375
6/3/10	356	4	98.9%	99.2%	376
6/6/10	337	2	99.4%	99.2%	377
6/8/10	409	2	99.5%	99.2%	378
6/10/10	363	2	99.4%	99.2%	379
6/13/10	370	1	99.7%	99.2%	380
6/15/10	358	3	99.2%	99.2%	381
6/17/10	357	3	99.2%	99.2%	382
6/20/10	312	3	99.0%	99.2%	383
6/22/10	338	3	99.1%	99.2%	384
6/24/10	316	3	99.1%	99.2%	385
6/27/10	406	3	99.3%	99.2%	386
6/29/10	366	3	99.2%	99.2%	387
7/1/10	352	2	99.4%	99.2%	388
7/4/10	414	3	99.3%	99.2%	389
7/6/10	366	3	99.2%	99.2%	390
7/8/10	336	2	99.4%	99.2%	391
7/11/10	439	1	99.8%	99.2%	392
7/13/10	457	2	99.6%	99.2%	393
7/15/10	397	2	99.5%	99.2%	394
7/18/10	324	1	99.7%	99.2%	395
7/20/10	335	1	99.7%	99.2%	396

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
7/22/10	365	2	99.5%	99.2%	397
7/25/10	406	1	99.8%	99.2%	398
7/27/10	424	3	99.3%	99.2%	399
7/29/10	334	1	99.7%	99.2%	400
8/1/10	321	1	99.7%	99.2%	401
8/3/10		3		99.2%	402
8/5/10	373	1	99.7%	99.2%	403
8/8/10	326	1	99.7%	99.2%	404
8/10/10	337	1	99.7%	99.2%	405
8/12/10	330	3	99.1%	99.2%	406
8/15/10	378	2	99.5%	99.2%	407
8/17/10	365	3	99.2%	99.2%	408
8/19/10	386	1	99.7%	99.2%	409
8/24/10	348	2	99.4%	99.2%	410
8/26/10	341	2	99.4%	99.2%	411
8/29/10	398	3	99.2%	99.2%	412
8/31/10	349	3	99.1%	99.2%	413
9/2/10	323	2	99.4%	99.2%	414
9/5/10	371	3	99.2%	99.2%	415
9/7/10	346	3	99.1%	99.2%	416
9/9/10	366	2	99.5%	99.2%	417
9/12/10	320	2	99.4%	99.2%	418
9/14/10	330	2	99.4%	99.2%	419
9/16/10	373	3	99.2%	99.2%	420
9/19/10	388	3	99.2%	99.2%	421
9/21/10	369	3	99.2%	99.2%	422
9/23/10	364	2	99.5%	99.2%	423
9/26/10	364	2	99.5%	99.2%	424
9/28/10	397	3	99.2%	99.2%	425
9/30/10	357	2	99.4%	99.2%	426
10/3/10	390	1	99.7%	99.2%	427
10/5/10	396	2	99.5%	99.2%	428
10/7/10	381	1	99.7%	99.2%	429
10/10/10	339	1	99.7%	99.2%	430
10/12/10	382	2	99.5%	99.2%	431
10/14/10	375	1	99.7%	99.2%	432
10/19/10	345	1	99.7%	99.3%	433
10/21/10	316	1	99.7%	99.3%	434
10/26/10	387	1	99.7%	99.3%	435
10/28/10	388	1	99.7%	99.3%	436
10/31/10	349	1	99.7%	99.3%	437
11/2/10	432	2	99.5%	99.3%	438
11/4/10	389	3	99.2%	99.3%	439
11/7/10	388	1	99.7%	99.3%	440

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
11/9/10	472	2	99.6%	99.3%	441
11/11/10	443	2	99.5%	99.3%	442
11/16/10	550*	2		99.3%	443
11/18/10	339	3	99.1%	99.3%	444
11/21/10	380	2	99.5%	99.3%	445
11/23/10	476			99.3%	446
11/25/10	445	1	99.8%	99.3%	447
11/28/10	382	2	99.5%	99.3%	448
11/30/10	417	3	99.3%	99.3%	449
12/2/10	442	3	99.3%	99.3%	450
12/5/10	377	2	99.5%	99.3%	451
12/7/10	568*	3		99.3%	452
12/9/10	488	3	99.4%	99.3%	453
12/14/10	349	3	99.1%	99.3%	454
12/16/10	406	3	99.3%	99.3%	455
12/19/10	425	3	99.3%	99.3%	456
12/21/10	359	4	98.9%	99.3%	457
12/26/10	392	4	99.0%	99.3%	458
12/30/10	349	5	98.6%	99.3%	459
1/2/11	363	2	99.4%	99.3%	460
1/4/11	358	3	99.2%	99.3%	461
1/6/11	277	4	98.6%	99.3%	462
1/9/11	287	3	99.0%	99.3%	463
1/11/11	401	3	99.3%	99.3%	464
1/13/11	353	4	98.9%	99.3%	465
1/16/11	325	3	99.1%	99.3%	466
1/18/11	394	4	99.0%	99.3%	467
1/20/11	355	4	98.9%	99.3%	468
1/23/11	368	4	98.9%	99.3%	469
1/25/11	356	4	98.9%	99.3%	470
1/27/11	406	3	99.3%	99.3%	471
1/30/11	403	2	99.5%	99.3%	472
2/1/11	358	3	99.2%	99.3%	473
2/3/11	381	3	99.2%	99.3%	474
2/6/11	353	3	99.2%	99.3%	475
2/8/11	343	3	99.1%	99.3%	476
2/10/11	360	3	99.2%	99.3%	477
2/13/11	380	2	99.5%	99.3%	478
2/15/11	382	4	99.0%	99.3%	479
2/17/11	317	3	99.1%	99.3%	480
2/20/11	284	3	98.9%	99.3%	481
2/22/11	333	3	99.1%	99.3%	482
2/24/11	296	2	99.3%	99.3%	483
2/27/11	328	3	99.1%	99.3%	484

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
3/1/11	346	2	99.4%	99.3%	485
3/3/11	331	3	99.1%	99.4%	486
3/6/11	370	2	99.5%	99.4%	487
3/8/11	379	3	99.2%	99.4%	488
3/10/11	357	2	99.4%	99.4%	489
3/13/11	365	1	99.7%	99.4%	490
3/15/11	358	2	99.4%	99.4%	491
3/17/11	395	2	99.5%	99.4%	492
3/20/11	332	2	99.4%	99.4%	493
3/22/11	383	4	99.0%	99.4%	494
3/24/11	297	3	99.0%	99.4%	495
3/27/11	303	2	99.3%	99.4%	496
3/29/11	381	3	99.2%	99.4%	497
3/31/11	376	2	99.5%	99.4%	498
4/5/11	394	3	99.2%	99.4%	499
4/7/11	376	3	99.2%	99.4%	500
4/10/11	387	3	99.2%	99.4%	501
4/12/11	386	3	99.2%	99.4%	502
4/14/11	378	3	99.2%	99.4%	503
4/17/11	354	2	99.4%	99.4%	504
4/19/11	344	1	99.7%	99.4%	505
4/21/11	381	2	99.5%	99.4%	506
4/24/11	381	2	99.5%	99.4%	507
4/26/11	390	2	99.5%	99.4%	508
4/28/11	312	1	99.7%	99.4%	509
5/1/11	376	3	99.2%	99.4%	510
5/3/11	389	3	99.2%	99.4%	511
5/5/11	340	2	99.4%	99.4%	512
5/8/11	380	3	99.2%	99.4%	513
5/10/11	382	3	99.2%	99.4%	514
5/12/11	410	3	99.3%	99.4%	515
5/15/11	351	2	99.4%	99.4%	516
5/17/11	351	2	99.4%	99.4%	517
5/19/11	349	3	99.1%	99.4%	518
5/22/11	369	3	99.2%	99.4%	519
5/24/11	333	3	99.1%	99.4%	520
5/26/11	383	2	99.5%	99.4%	521
5/29/11	329	1	99.7%	99.4%	522
5/31/11	407	3	99.3%	99.4%	523
6/2/11	351	2	99.4%	99.4%	524
6/5/11	345	2	99.4%	99.4%	525
6/7/11	333	2	99.4%	99.4%	526
6/9/11	313	1	99.7%	99.4%	527
6/12/11	346	1	99.7%	99.4%	528

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
6/14/11	340	2	99.4%	99.4%	529
6/16/11	354	2	99.4%	99.4%	530
6/19/11	350	1	99.7%	99.4%	531
6/21/11	358	2	99.4%	99.4%	532
6/23/11	335	1	99.7%	99.4%	533
6/26/11	358	1	99.7%	99.4%	534
6/28/11	347	2	99.4%	99.4%	535
6/30/11	354	1	99.7%	99.4%	536
7/3/11	362	2	99.4%	99.4%	537
7/5/11	311	2	99.4%	99.4%	538
7/7/11	303	1	99.7%	99.4%	539
7/10/11	372	1	99.7%	99.4%	540
7/12/11	344	1	99.7%	99.4%	541
7/14/11	334	1	99.7%	99.4%	542
7/17/11	340	2	99.4%	99.4%	543
7/19/11	338	1	99.7%	99.4%	544
7/21/11	342	1	99.7%	99.4%	545
7/24/11	340	1	99.7%	99.4%	546
7/26/11	332	2	99.4%	99.5%	547
7/28/11	333	2	99.4%	99.5%	548
7/31/11	323	1	99.7%	99.5%	549
8/2/11	332	2	99.4%	99.5%	550
8/4/11	361	3	99.2%	99.5%	551
8/7/11	337	1	99.7%	99.5%	552
8/9/11	349	1	99.7%	99.5%	553
8/11/11	377	1	99.7%	99.5%	554
8/14/11	289	1	99.7%	99.5%	555
8/16/11	295	1	99.7%	99.5%	556
8/18/11	304	1	99.7%	99.5%	557
8/21/11	289	1	99.7%	99.5%	558
8/23/11	328	1	99.7%	99.5%	559
8/25/11	315	1	99.7%	99.5%	560
8/28/11	331	1	99.7%	99.5%	561
8/30/11	336	1	99.7%	99.5%	562
9/1/11	338	1	99.7%	99.5%	563
9/4/11	308	2	99.4%	99.5%	564
9/6/11	329	1	99.7%	99.5%	565
9/8/11	316	2	99.4%	99.5%	566
9/11/11	295	2	99.3%	99.5%	567
9/13/11	284	3	98.9%	99.5%	568
9/15/11	303	2	99.3%	99.5%	569
9/18/11	333	2	99.4%	99.5%	570
9/20/11	300	2	99.3%	99.5%	571
9/22/11	313	2	99.4%	99.5%	572

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
9/25/11	375	1	99.7%	99.5%	573
9/27/11	322	2	99.4%	99.5%	574
9/29/11	310	2	99.4%	99.5%	575
10/2/11	380	3	99.2%	99.5%	576
10/4/11	331	2	99.4%	99.5%	577
10/6/11	330	2	99.4%	99.5%	578
10/9/11	305	2	99.3%	99.5%	579
10/11/11	318	1	99.7%	99.5%	580
10/13/11	312	1	99.7%	99.5%	581
10/16/11	367	1	99.7%	99.5%	582
10/18/11	370	2	99.5%	99.5%	583
10/20/11	343	2	99.4%	99.5%	584
10/23/11	318	3	99.1%	99.5%	585
10/25/11	303	3	99.0%	99.6%	586
10/27/11	313	3	99.0%	99.6%	587
10/30/11	293	1	99.7%	99.6%	588
11/1/11	312	2	99.4%	99.6%	589
11/2/11	289			99.6%	590
11/3/11	288	1	99.7%	99.6%	591
11/6/11	323	2	99.4%	99.6%	592
11/7/11	321			99.6%	593
11/8/11	248	2	99.2%	99.6%	594
11/10/11	306	2	99.3%	99.6%	595
11/13/11	317	2	99.4%	99.6%	596
11/17/11	302	2	99.3%	99.7%	597
11/20/11	324	2	99.4%	99.7%	598
11/22/11	319	2	99.4%	99.7%	599
11/24/11	383	1	99.7%	99.7%	600
11/27/11	289	2	99.3%	99.7%	601
11/29/11	311	3	99.0%	99.7%	602
12/1/11	313	2	99.4%	99.7%	603
12/4/11	248	3	98.8%	99.7%	604
12/6/11	288	4	98.6%	99.7%	605
12/8/11	389	3	99.2%	99.7%	606
12/11/11	291	4	98.6%	99.7%	607
12/13/11	280	4	98.6%	99.7%	608
12/15/11	389	4	99.0%	99.7%	609
12/18/11	342	3	99.1%	99.7%	610
12/20/11	327	4	98.8%	99.7%	611
12/22/11	382	3	99.2%	99.7%	612
12/25/11	373	3	99.2%	99.7%	613
12/27/11	387	4	99.0%	99.7%	614
12/29/11	327	3	99.1%	99.7%	615
1/1/12	363	3	99.2%	99.7%	616

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
1/3/12	331	5	98.5%	99.7%	617
1/5/12	388	4	99.0%	99.7%	618
1/8/12	351	5	98.6%	99.7%	619
1/10/12	356	4	98.9%	99.7%	620
1/11/12	311			99.7%	621
1/12/12	399	4	99.0%	99.7%	622
1/15/12	408	4	99.0%	99.7%	623
1/16/12	375			99.7%	624
1/17/12	379	4	98.9%	99.7%	625
1/19/12	462	3	99.4%	99.7%	626
1/22/12	357	4	98.9%	99.7%	627
1/24/12	426	3	99.3%	99.7%	628
1/25/12	399			99.7%	629
1/26/12	424	4	99.1%	99.7%	630
1/29/12	428	3	99.3%	99.7%	631
1/31/12	402	3	99.3%	99.7%	632
2/2/12	408	3	99.3%	99.7%	633
2/5/12	366	3	99.2%	99.7%	634
2/7/12	412	4	99.0%	99.7%	635
2/9/12	416	4	99.0%	99.7%	636
2/12/12	408	3	99.3%	99.7%	637
2/14/12	427	3	99.3%	99.7%	638
2/16/12		3		99.7%	639
2/19/12	456	2	99.6%	99.7%	640
2/21/12	396	3	99.2%	99.7%	641
2/23/12	405	3	99.3%	99.7%	642
2/26/12	392	3	99.2%	99.7%	643
2/28/12	294			99.7%	644
3/1/12	355	3	99.2%	99.7%	645
3/4/12	316	3	99.1%	99.7%	646
3/6/12	293	3	99.0%	99.7%	647
3/8/12	449	3	99.3%	99.7%	648
3/11/12	348	3	99.1%	99.7%	649
3/13/12	419	3	99.3%	99.7%	650
3/15/12	388	3	99.2%	99.7%	651
3/18/12	348	3	99.1%	99.7%	652
3/20/12	355	4	98.9%	99.7%	653
3/22/12	401	3	99.3%	99.7%	654
3/25/12	379	4	98.9%	99.8%	655
3/27/12	390	4	99.0%	99.8%	656
3/29/12	416	3	99.3%	99.8%	657
4/1/12	329	3	99.1%	99.8%	658
4/3/12	359	3	99.2%	99.8%	659
4/5/12	363	3	99.2%	99.8%	660

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

Date	BOD Influent (mg/L)	BOD Final Effluent (mg/L)	BOD Percent Removal	Percent Removal in Order	Rank
4/8/12	326	3	99.1%	99.8%	661
4/10/12	399	3	99.2%	99.8%	662
4/12/12	382	3	99.2%	99.8%	663
4/15/12	362	3	99.2%		
4/17/12	382	3	99.2%		
4/19/12	381	3	99.2%		
4/22/12	387	3	99.2%		
4/24/12	449	3	99.3%		
4/26/12	404	3	99.3%		
4/29/12	379	3	99.2%		
5/1/12	431	3	99.3%		
5/3/12	422	3	99.3%		
5/6/12	389	3	99.2%		
5/8/12	414	3	99.3%		
5/10/12	406	3	99.3%		
5/13/12	381	3	99.2%		
5/15/12	350	3	99.1%		
5/17/12	372	3	99.2%		
5/20/12	360	3	99.2%		
5/22/12	388	4	99.0%		
5/24/12	394	3	99.2%		
5/27/12		3			
5/29/12	379	3	99.2%		
5/31/12	362	4	98.9%		
6/3/12	356	3	99.2%		
6/5/12	352	3	99.1%		
6/7/12	354	5	98.6%		
6/10/12	352	3	99.1%		
6/12/12	338	3	99.1%		
6/14/12	319	3	99.1%		
6/17/12	294	3	99.0%		
6/19/12	344	3	99.1%		
6/21/12	357	3	99.2%		
6/24/12	324	3	99.1%		
6/26/12	324	3	99.1%		
6/28/12		3			

*Asterisks indicate influent data removed due to being above 2.75 standard deviations or 466 mg/L; therefore, considered outliers.

Table B-16: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Biological Oxygen Demand (BOD)

<u>**BOD Removal Rate Calculations**</u>	
Total Number of Samples	663
Median =	99%
ADRE =	**99%**
MRE =	**99%**
To calculate the removal rate at the 3rd decile	199
Rank of 3rd decile = Sample Size* (30%) = 596*(0.3) =	
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**99%**
<u>**Maximum and Minimum Values**</u>	
Maximum Raw Sewage (mg/L) =	**503**
Average Raw Sewage (mg/L) =	**361**
Maximum Final Effluent (mg/L) =	**9**
Average Final Effluent (mg/L) =	**3**

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
1/1/2008	401	1.8	99.6%	96.2%	1
1/3/2008	357	2.1	99.4%	98.1%	2
1/6/2008	268	3.4	98.7%	98.4%	3
1/8/2008	259	3.2	98.8%	98.5%	4
1/10/2008	222	2.1	99.1%	98.5%	5
1/13/2008	324	2.1	99.4%	98.6%	6
1/15/2008	277	1.9	99.3%	98.7%	7
1/17/2008	353	1.7	99.5%	98.7%	8
1/20/2008	315	1.7	99.5%	98.7%	9
1/22/2008	299	1.8	99.4%	98.7%	10
1/24/2008	305	1.2	99.6%	98.7%	11
1/27/2008	279	1.9	99.3%	98.7%	12
1/29/2008	292	1.4	99.5%	98.8%	13
1/31/2008	314	1.6	99.5%	98.8%	14
2/3/2008	273	1.3	99.5%	98.8%	15
2/5/2008	298	2.3	99.2%	98.8%	16
2/7/2008	269	1.6	99.4%	98.8%	17
2/10/2008	304	1.9	99.4%	98.8%	18
2/12/2008	313	2.5	99.2%	98.8%	19
2/14/2008	329	2.3	99.3%	98.8%	20
2/17/2008	275	2.4	99.1%	98.8%	21
2/19/2008	342	2.0	99.4%	98.8%	22
2/21/2008	337	3.0	99.1%	98.8%	23
2/24/2008	314	1.4	99.6%	98.9%	24
2/26/2008	384	1.3	99.7%	98.9%	25
2/28/2008	302	1.4	99.5%	98.9%	26
3/2/2008	340	1.1	99.7%	98.9%	27
3/4/2008	201	1.4	99.3%	98.9%	28
3/6/2008	79	3.0	96.2%	98.9%	29
3/9/2008	93	1.1	98.8%	98.9%	30
3/11/2008	122	1.3	98.9%	98.9%	31
3/13/2008	268	0.5	99.8%	99.0%	32
3/16/2008	174	1.0	99.4%	99.0%	33
3/18/2008	293	1.0	99.7%	99.0%	34
3/20/2008	175	0.5	99.7%	99.0%	35
3/23/2008	187	1.1	99.4%	99.0%	36
3/25/2008	320	1.0	99.7%	99.0%	37
3/27/2008	280	1.6	99.4%	99.0%	38
3/30/2008	156	1.8	98.8%	99.0%	39
4/1/2008	244	3.0	98.8%	99.0%	40
4/3/2008	267	1.4	99.5%	99.0%	41
4/6/2008	181	2.0	98.9%	99.1%	42
4/8/2008	292	1.7	99.4%	99.1%	43
4/10/2008	309	2.1	99.3%	99.1%	44

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
4/13/2008	326	2.2	99.3%	99.1%	45
4/15/2008	284	1.5	99.5%	99.1%	46
4/17/2008	275	1.7	99.4%	99.1%	47
4/20/2008	325	1.4	99.6%	99.1%	48
4/22/2008	427	1.5	99.6%	99.1%	49
4/24/2008	316	1.8	99.4%	99.1%	50
4/27/2008	271	3.3	98.8%	99.1%	51
4/29/2008	247	2.0	99.2%	99.1%	52
5/1/2008	247	1.8	99.3%	99.2%	53
5/4/2008	310	1.7	99.5%	99.2%	54
5/6/2008	365	1.8	99.5%	99.2%	55
5/8/2008	386	2.3	99.4%	99.2%	56
5/11/2008	394	2.5	99.4%	99.2%	57
5/13/2008	299	2.1	99.3%	99.2%	58
5/15/2008	355	1.8	99.5%	99.2%	59
5/18/2008	362	1.5	99.6%	99.2%	60
5/20/2008	318	1.4	99.6%	99.2%	61
5/22/2008	342	1.7	99.5%	99.2%	62
5/25/2008	299	2.0	99.3%	99.2%	63
5/27/2008	323	2.1	99.3%	99.2%	64
5/29/2008	266	1.8	99.3%	99.2%	65
6/1/2008	311	1.2	99.6%	99.2%	66
6/3/2008	345	2.0	99.4%	99.2%	67
6/5/2008	518*	1.4		99.2%	68
6/8/2008	330	1.3	99.6%	99.2%	69
6/10/2008	355	1.6	99.5%	99.2%	70
6/12/2008	340	2.0	99.4%	99.2%	71
6/15/2008	299	1.2	99.6%	99.2%	72
6/17/2008	322	1.5	99.5%	99.2%	73
6/19/2008	267	2.2	99.2%	99.2%	74
6/22/2008	333	1.3	99.6%	99.2%	75
6/24/2008	333	1.6	99.5%	99.2%	76
6/26/2008	388	1.7	99.6%	99.2%	77
6/29/2008	212	1.1	99.5%	99.2%	78
7/1/2008	387	1.4	99.6%	99.2%	79
7/3/2008	310	1.5	99.5%	99.3%	80
7/6/2008	233	1.3	99.4%	99.3%	81
7/8/2008	296	1.1	99.6%	99.3%	82
7/10/2008	272	1.1	99.6%	99.3%	83
7/13/2008	248	1.4	99.4%	99.3%	84
7/15/2008	379	1.2	99.7%	99.3%	85
7/17/2008	291	1.6	99.5%	99.3%	86
7/20/2008	177	1.1	99.4%	99.3%	87
7/22/2008	214	1.3	99.4%	99.3%	88

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
7/24/2008	250	2.0	99.2%	99.3%	89
7/27/2008	294	1.4	99.5%	99.3%	90
7/29/2008	265	1.3	99.5%	99.3%	91
7/31/2008	266	1.3	99.5%	99.3%	92
8/3/2008	259	1.0	99.6%	99.3%	93
8/5/2008	261	1.2	99.5%	99.3%	94
8/7/2008	282	1.3	99.5%	99.3%	95
8/10/2008	274	1.3	99.5%	99.3%	96
8/12/2008	280	0.5	99.8%	99.3%	97
8/14/2008	279	1.0	99.6%	99.3%	98
8/17/2008	269	1.0	99.6%	99.3%	99
8/19/2008	278	0.5	99.8%	99.3%	100
8/21/2008	275	0.5	99.8%	99.3%	101
8/24/2008	338	0.5	99.9%	99.3%	102
8/26/2008	185	0.5	99.7%	99.3%	103
8/28/2008	276	1.1	99.6%	99.3%	104
8/31/2008	255	0.5	99.8%	99.3%	105
9/2/2008	226	0.5	99.8%	99.3%	106
9/4/2008	237	1.2	99.5%	99.3%	107
9/7/2008	305	0.5	99.8%	99.3%	108
9/9/2008	268	0.5	99.8%	99.3%	109
9/11/2008	334	1.0	99.7%	99.3%	110
9/14/2008	272	0.5	99.8%	99.3%	111
9/16/2008	331	0.5	99.8%	99.3%	112
9/18/2008	327	1.3	99.6%	99.3%	113
9/21/2008	233	1.0	99.6%	99.3%	114
9/23/2008	251	1.0	99.6%	99.3%	115
9/25/2008	257	1.2	99.5%	99.3%	116
9/28/2008	246	1.7	99.3%	99.3%	117
9/30/2008	266	0.5	99.8%	99.3%	118
10/2/2008	273	1.1	99.6%	99.3%	119
10/5/2008	256	1.3	99.5%	99.3%	120
10/7/2008	350	1.3	99.6%	99.3%	121
10/9/2008	360	0.5	99.9%	99.3%	122
10/12/2008	332	1.0	99.7%	99.3%	123
10/14/2008	324	1.9	99.4%	99.3%	124
10/16/2008	229	1.2	99.5%	99.3%	125
10/19/2008	211	1.0	99.5%	99.3%	126
10/21/2008	246	0.5	99.8%	99.3%	127
10/23/2008	244	0.5	99.8%	99.3%	128
10/26/2008	260	1.1	99.6%	99.3%	129
10/28/2008	226	1.2	99.5%	99.3%	130
10/30/2008	274	1.4	99.5%	99.3%	131
11/1/2008	277			99.3%	132

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
11/2/2008	272	1.3	99.5%	99.3%	133
11/3/2008	248			99.3%	134
11/4/2008	960*	1.4		99.3%	135
11/5/2008	370			99.3%	136
11/6/2008	369	1.4	99.6%	99.3%	137
11/7/2008	275			99.3%	138
11/8/2008	310			99.3%	139
11/9/2008	396	1.4	99.6%	99.3%	140
11/10/2008	328			99.3%	141
11/11/2008	391	1.4	99.6%	99.3%	142
11/12/2008	399			99.3%	143
11/13/2008	420	1.1	99.7%	99.4%	144
11/14/2008	295			99.4%	145
11/15/2008	280			99.4%	146
11/16/2008	340	1.6	99.5%	99.4%	147
11/17/2008	173			99.4%	148
11/18/2008	334	1.5	99.6%	99.4%	149
11/20/2008	648*	2.2		99.4%	150
11/23/2008	288	2.0	99.3%	99.4%	151
11/25/2008	522*	1.5		99.4%	152
11/27/2008	338	2.5	99.3%	99.4%	153
11/30/2008	301	2.4	99.2%	99.4%	154
12/2/2008	337	2.0	99.4%	99.4%	155
12/4/2008	329	1.6	99.5%	99.4%	156
12/7/2008	313	1.7	99.5%	99.4%	157
12/9/2008	320	2.0	99.4%	99.4%	158
12/11/2008	347	2.4	99.3%	99.4%	159
12/14/2008	322	2.2	99.3%	99.4%	160
12/16/2008	338	2.5	99.3%	99.4%	161
12/18/2008	271	2.5	99.1%	99.4%	162
12/21/2008	236	2.4	99.0%	99.4%	163
12/23/2008	298	1.7	99.4%	99.4%	164
12/25/2008	341	1.3	99.6%	99.4%	165
12/28/2008	384	1.6	99.6%	99.4%	166
12/30/2008	279	1.3	99.5%	99.4%	167
1/1/2009	333	2.2	99.3%	99.4%	168
1/4/2009	304	1.6	99.5%	99.4%	169
1/6/2009	284	1.5	99.5%	99.4%	170
1/8/2009	281	2.8	99.0%	99.4%	171
1/11/2009	259	1.6	99.4%	99.4%	172
1/13/2009	299	1.8	99.4%	99.4%	173
1/15/2009	326	2.1	99.4%	99.4%	174
1/18/2009	341	2.3	99.3%	99.4%	175
1/20/2009	324	2.1	99.4%	99.4%	176

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
1/22/2009	338	1.8	99.5%	99.4%	177
1/25/2009	366	2.6	99.3%	99.4%	178
1/27/2009	325	2.1	99.4%	99.4%	179
1/29/2009	332	1.6	99.5%	99.4%	180
2/1/2009	346	2.3	99.3%	99.4%	181
2/3/2009	358	2.1	99.4%	99.4%	182
2/5/2009	332	3.3	99.0%	99.4%	183
2/8/2009	259	2.8	98.9%	99.4%	184
2/10/2009	380	2.9	99.2%	99.4%	185
2/12/2009	486*	2.7		99.4%	186
2/15/2009	329	2.6	99.2%	99.4%	187
2/17/2009	421	4.1	99.0%	99.4%	188
2/19/2009	329	4.1	98.8%	99.4%	189
2/22/2009	314	2.6	99.2%	99.4%	190
2/24/2009	292	2.1	99.3%	99.4%	191
2/26/2009	797*	2.3		99.4%	192
3/1/2009	318	1.9	99.4%	99.4%	193
3/3/2009	426	3.3	99.2%	99.4%	194
3/5/2009	466	3.4	99.3%	99.4%	195
3/8/2009	259	2.4	99.1%	99.4%	196
3/10/2009	369	2.3	99.4%	99.4%	197
3/12/2009	417	2.0	99.5%	99.4%	198
3/15/2009		3.0		99.4%	199
3/15/2009	352			99.4%	200
3/17/2009	306	3.9	98.7%	99.4%	201
3/19/2009	322	3.3	99.0%	99.4%	202
3/22/2009	290	3.1	98.9%	99.4%	203
3/24/2009	241	2.9	98.8%	99.4%	204
3/26/2009	597*	2.9		99.4%	205
3/29/2009	340	2.3	99.3%	99.4%	206
3/31/2009	268	3.1	98.8%	99.4%	207
4/2/2009	394	3.4	99.1%	99.4%	208
4/5/2009	283	3.8	98.7%	99.4%	209
4/7/2009	285	3.4	98.8%	99.4%	210
4/9/2009	271	3.2	98.8%	99.4%	211
4/12/2009	211	3.0	98.6%	99.4%	212
4/14/2009	231	4.3	98.1%	99.4%	213
4/16/2009	251	4.1	98.4%	99.4%	214
4/19/2009	270	3.5	98.7%	99.4%	215
4/21/2009	248	3.8	98.5%	99.4%	216
4/23/2009	250	2.7	98.9%	99.4%	217
4/26/2009	258	2.9	98.9%	99.4%	218
4/28/2009	275	2.3	99.2%	99.4%	219
4/30/2009	283	3.2	98.9%	99.4%	220

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
5/3/2009	311	2.7	99.1%	99.4%	221
5/5/2009	303	3.6	98.8%	99.4%	222
5/7/2009	341	2.9	99.1%	99.4%	223
5/10/2009	241	2.3	99.0%	99.4%	224
5/12/2009	258	2.4	99.1%	99.4%	225
5/14/2009	304	2.5	99.2%	99.4%	226
5/17/2009	280	1.5	99.5%	99.4%	227
5/19/2009	285	1.3	99.5%	99.4%	228
5/21/2009	337	1.6	99.5%	99.4%	229
5/24/2009	311	1.0	99.7%	99.4%	230
5/26/2009	345	1.6	99.5%	99.4%	231
5/28/2009	356	1.4	99.6%	99.4%	232
5/31/2009	239	1.4	99.4%	99.4%	233
6/2/2009	322	2.2	99.3%	99.4%	234
6/4/2009	277	1.3	99.5%	99.4%	235
6/7/2009	229	2.1	99.1%	99.4%	236
6/9/2009	290	2.2	99.2%	99.4%	237
6/11/2009	305	2.2	99.3%	99.4%	238
6/14/2009	245	1.7	99.3%	99.4%	239
6/16/2009	272	2.2	99.2%	99.5%	240
6/18/2009	334	1.7	99.5%	99.5%	241
6/21/2009	319	3.1	99.0%	99.5%	242
6/23/2009	292	2.4	99.2%	99.5%	243
6/25/2009	398	2.6	99.3%	99.5%	244
6/28/2009	226	3.4	98.5%	99.5%	245
6/30/2009	280	2.3	99.2%	99.5%	246
7/2/2009	231	2.4	99.0%	99.5%	247
7/5/2009	346	1.6	99.5%	99.5%	248
7/7/2009	355	1.9	99.5%	99.5%	249
7/9/2009	301	1.6	99.5%	99.5%	250
7/12/2009	275	1.9	99.3%	99.5%	251
7/14/2009	355	2.4	99.3%	99.5%	252
7/16/2009	283	1.7	99.4%	99.5%	253
7/19/2009	242	2.0	99.2%	99.5%	254
7/21/2009	248	1.7	99.3%	99.5%	255
7/23/2009	331	2.0	99.4%	99.5%	256
7/26/2009	269	2.1	99.2%	99.5%	257
7/28/2009	301	2.1	99.3%	99.5%	258
7/30/2009	303	1.9	99.4%	99.5%	259
8/2/2009	290	1.8	99.4%	99.5%	260
8/4/2009	272	1.8	99.3%	99.5%	261
8/6/2009	339	2.0	99.4%	99.5%	262
8/9/2009	299	1.9	99.4%	99.5%	263
8/11/2009	266	1.9	99.3%	99.5%	264

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
8/13/2009	267	2.0	99.3%	99.5%	265
8/16/2009	276	1.9	99.3%	99.5%	266
8/18/2009	274	1.8	99.3%	99.5%	267
8/20/2009	283	1.9	99.3%	99.5%	268
8/23/2009	315	2.0	99.4%	99.5%	269
8/25/2009	294	1.9	99.4%	99.5%	270
8/27/2009	281	2.1	99.3%	99.5%	271
8/30/2009	248	1.8	99.3%	99.5%	272
9/1/2009	261	2.7	99.0%	99.5%	273
9/3/2009	277	2.0	99.3%	99.5%	274
9/6/2009	241	3.1	98.7%	99.5%	275
9/8/2009	255	2.4	99.1%	99.5%	276
9/10/2009	268	1.5	99.4%	99.5%	277
9/13/2009	264	1.6	99.4%	99.5%	278
9/15/2009	227	1.1	99.5%	99.5%	279
9/17/2009	249	1.2	99.5%	99.5%	280
9/20/2009	245	1.2	99.5%	99.5%	281
9/22/2009	233	1.8	99.2%	99.5%	282
9/24/2009	138	1.8	98.7%	99.5%	283
9/27/2009	243	2.0	99.2%	99.5%	284
9/29/2009	262	1.7	99.4%	99.5%	285
10/1/2009	243	1.5	99.4%	99.5%	286
10/4/2009	247	1.4	99.4%	99.5%	287
10/6/2009	256	1.3	99.5%	99.5%	288
10/8/2009	253	1.4	99.4%	99.5%	289
10/11/2009	285	1.8	99.4%	99.5%	290
10/13/2009	345	2.1	99.4%	99.5%	291
10/15/2009	245	1.8	99.3%	99.5%	292
10/18/2009	238	1.4	99.4%	99.5%	293
10/20/2009	262	1.5	99.4%	99.5%	294
10/22/2009	289	1.6	99.4%	99.5%	295
10/25/2009	256	1.8	99.3%	99.5%	296
10/27/2009	266	1.8	99.3%	99.5%	297
10/29/2009	261	2.5	99.0%	99.5%	298
11/1/2009	226	1.8	99.2%	99.5%	299
11/3/2009	229	1.9	99.2%	99.5%	300
11/5/2009	244	1.8	99.3%	99.5%	301
11/8/2009	236	1.7	99.3%	99.5%	302
11/10/2009	381	2.1	99.4%	99.5%	303
11/12/2009	259	2.0	99.2%	99.5%	304
11/15/2009	236	1.6	99.3%	99.5%	305
11/17/2009	253	1.6	99.4%	99.5%	306
11/19/2009	274	1.7	99.4%	99.5%	307
11/22/2009	280	1.7	99.4%	99.5%	308

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
11/24/2009	303	1.7	99.4%	99.5%	309
11/26/2009	328	1.5	99.5%	99.5%	310
11/29/2009	268	1.4	99.5%	99.5%	311
12/1/2009	277	1.6	99.4%	99.5%	312
12/3/2009	290	1.6	99.4%	99.5%	313
12/6/2009	265	1.6	99.4%	99.5%	314
12/8/2009	297	1.9	99.4%	99.5%	315
12/10/2009	272	2.1	99.2%	99.5%	316
12/13/2009	321	1.5	99.5%	99.5%	317
12/15/2009	282	1.8	99.4%	99.5%	318
12/17/2009	293	1.5	99.5%	99.5%	319
12/20/2009	282	1.6	99.4%	99.5%	320
12/22/2009	273	1.6	99.4%	99.5%	321
12/24/2009	305	2.0	99.3%	99.5%	322
12/27/2009	312	1.6	99.5%	99.5%	323
12/29/2009	284	2.1	99.3%	99.5%	324
12/31/2009	299	1.5	99.5%	99.5%	325
1/3/2010	391	1.6	99.6%	99.5%	326
1/5/2010	256	1.8	99.3%	99.5%	327
1/7/2010	264	1.8	99.3%	99.5%	328
1/10/2010	260	1.4	99.5%	99.5%	329
1/12/2010	366	1.5	99.6%	99.5%	330
1/14/2010	385	1.3	99.7%	99.5%	331
1/17/2010	282	1.6	99.4%	99.5%	332
1/19/2010	292	1.4	99.5%	99.5%	333
1/21/2010	249	2.0	99.2%	99.5%	334
1/24/2010	434	1.3	99.7%	99.5%	335
1/26/2010	302	1.1	99.6%	99.5%	336
1/28/2010	245	1.1	99.6%	99.5%	337
1/31/2010	546*	1.0		99.5%	338
2/2/2010	270	1.2	99.6%	99.5%	339
2/4/2010	298	1.2	99.6%	99.5%	340
2/7/2010	254	1.0	99.6%	99.5%	341
2/9/2010	284	1.1	99.6%	99.5%	342
2/11/2010	265	1.2	99.5%	99.5%	343
2/14/2010	274	0.5	99.8%	99.5%	344
2/16/2010	266	1.1	99.6%	99.5%	345
2/18/2010	298	1.4	99.5%	99.5%	346
2/21/2010	279	1.5	99.5%	99.5%	347
2/23/2010	322	1.7	99.5%	99.5%	348
2/25/2010	294	1.4	99.5%	99.5%	349
2/28/2010	304	0.5	99.8%	99.5%	350
3/2/2010	290	0.5	99.8%	99.5%	351
3/4/2010	275	1.2	99.6%	99.5%	352

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
3/7/2010	290	1.1	99.6%	99.5%	353
3/9/2010	273	1.3	99.5%	99.5%	354
3/11/2010	297	1.0	99.7%	99.5%	355
3/14/2010	255	1.0	99.6%	99.5%	356
3/16/2010	259	0.5	99.8%	99.5%	357
3/18/2010	250	0.5	99.8%	99.5%	358
3/21/2010	314	0.5	99.8%	99.5%	359
3/23/2010	267	1.3	99.5%	99.5%	360
3/25/2010	322	1.3	99.6%	99.5%	361
3/28/2010	336	1.2	99.6%	99.5%	362
3/30/2010	284	1.4	99.5%	99.5%	363
4/1/2010	322	1.9	99.4%	99.5%	364
4/4/2010	282	3.0	98.9%	99.5%	365
4/6/2010	264	1.2	99.5%	99.5%	366
4/8/2010	278	1.1	99.6%	99.5%	367
4/11/2010	278	1.5	99.5%	99.5%	368
4/13/2010	247	1.3	99.5%	99.5%	369
4/15/2010	243	0.5	99.8%	99.5%	370
4/18/2010	284	1.1	99.6%	99.5%	371
4/20/2010	251	1.5	99.4%	99.6%	372
4/22/2010	263	1.1	99.6%	99.6%	373
4/25/2010	273	0.5	99.8%	99.6%	374
4/27/2010	280	0.5	99.8%	99.6%	375
4/29/2010	275	1.1	99.6%	99.6%	376
5/2/2010	312	0.5	99.8%	99.6%	377
5/4/2010	291	0.5	99.8%	99.6%	378
5/6/2010	315	1.0	99.7%	99.6%	379
5/9/2010	265	1.7	99.4%	99.6%	380
5/11/2010	283	1.3	99.5%	99.6%	381
5/13/2010	313	1.1	99.6%	99.6%	382
5/16/2010	299	0.5	99.8%	99.6%	383
5/18/2010	333	0.5	99.8%	99.6%	384
5/20/2010	322	0.5	99.8%	99.6%	385
5/23/2010	339	0.5	99.9%	99.6%	386
5/25/2010	331	1.2	99.6%	99.6%	387
5/27/2010	342	0.5	99.9%	99.6%	388
5/30/2010	267	1.2	99.6%	99.6%	389
6/1/2010	279	1.2	99.6%	99.6%	390
6/3/2010	328	1.3	99.6%	99.6%	391
6/6/2010	254	1.2	99.5%	99.6%	392
6/8/2010	291	1.2	99.6%	99.6%	393
6/10/2010	289	0.5	99.8%	99.6%	394
6/13/2010	273	1.1	99.6%	99.6%	395
6/15/2010	285	1.0	99.6%	99.6%	396

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
6/17/2010	260	1.2	99.5%	99.6%	397
6/20/2010	245	0.5	99.8%	99.6%	398
6/22/2010	261	1.1	99.6%	99.6%	399
6/24/2010	240	1.0	99.6%	99.6%	400
6/27/2010	254	1.1	99.6%	99.6%	401
6/29/2010	275	1.1	99.6%	99.6%	402
7/1/2010	288	1.0	99.7%	99.6%	403
7/4/2010	376	1.3	99.7%	99.6%	404
7/6/2010	317	1.0	99.7%	99.6%	405
7/8/2010	299	0.5	99.8%	99.6%	406
7/11/2010	290	0.5	99.8%	99.6%	407
7/13/2010	346	0.5	99.9%	99.6%	408
7/15/2010	360	0.5	99.9%	99.6%	409
7/18/2010	262	0.5	99.8%	99.6%	410
7/20/2010	279	0.5	99.8%	99.6%	411
7/22/2010	304	0.5	99.8%	99.6%	412
7/25/2010	308	1.0	99.7%	99.6%	413
7/27/2010	476*	0.5		99.6%	414
7/29/2010	309	1.0	99.7%	99.6%	415
8/1/2010	286	1.1	99.6%	99.6%	416
8/3/2010	314	1.2	99.6%	99.6%	417
8/5/2010	335	1.1	99.7%	99.6%	418
8/8/2010	292	1.4	99.5%	99.6%	419
8/10/2010	318	1.1	99.7%	99.6%	420
8/12/2010	302	1.0	99.7%	99.6%	421
8/15/2010	308	0.5	99.8%	99.6%	422
8/17/2010	304	0.5	99.8%	99.6%	423
8/19/2010	351	1.1	99.7%	99.6%	424
8/22/2010	321	0.5	99.8%	99.6%	425
8/24/2010	351	0.5	99.9%	99.6%	426
8/26/2010	299	0.5	99.8%	99.6%	427
8/29/2010	276	0.5	99.8%	99.6%	428
8/31/2010	302	0.5	99.8%	99.6%	429
9/2/2010	321	0.5	99.8%	99.6%	430
9/5/2010	290	1.0	99.7%	99.6%	431
9/7/2010	319	0.5	99.8%	99.6%	432
9/9/2010	338	0.5	99.9%	99.6%	433
9/12/2010	289	1.0	99.7%	99.6%	434
9/14/2010	336	1.1	99.7%	99.6%	435
9/16/2010	309	0.5	99.8%	99.6%	436
9/19/2010	324	1.7	99.5%	99.6%	437
9/21/2010	322	1.2	99.6%	99.6%	438
9/23/2010	315	1.4	99.6%	99.6%	439
9/26/2010	300	1.4	99.5%	99.6%	440

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
9/28/2010	373	1.8	99.5%	99.6%	441
9/30/2010	356	1.6	99.6%	99.6%	442
10/3/2010	317	1.0	99.7%	99.6%	443
10/5/2010	361	1.4	99.6%	99.6%	444
10/7/2010	324	1.3	99.6%	99.6%	445
10/10/2010	374	1.4	99.6%	99.6%	446
10/12/2010	355	2.7	99.2%	99.6%	447
10/14/2010	358	1.0	99.7%	99.6%	448
10/17/2010	302	1.0	99.7%	99.6%	449
10/19/2010	344	0.5	99.9%	99.6%	450
10/21/2010	324	0.5	99.8%	99.6%	451
10/24/2010	335	0.5	99.9%	99.6%	452
10/26/2010	390	0.5	99.9%	99.6%	453
10/28/2010	377	0.5	99.9%	99.6%	454
10/31/2010	323	1.0	99.7%	99.6%	455
11/2/2010	378	1.3	99.7%	99.6%	456
11/4/2010	386	0.5	99.9%	99.6%	457
11/7/2010	396	1.1	99.7%	99.6%	458
11/9/2010	505*	1.2		99.6%	459
11/11/2010	445	1.2	99.7%	99.6%	460
11/14/2010	294	1.1	99.6%	99.6%	461
11/16/2010	574*	0.5		99.6%	462
11/18/2010	320	1.2	99.6%	99.6%	463
11/21/2010	299	1.2	99.6%	99.6%	464
11/23/2010	411			99.6%	465
11/25/2010	398	0.5	99.9%	99.6%	466
11/28/2010	285	0.5	99.8%	99.6%	467
11/30/2010	342	0.5	99.9%	99.6%	468
12/2/2010	349	0.5	99.9%	99.6%	469
12/5/2010	333	1.1	99.7%	99.6%	470
12/7/2010	328	1.0	99.7%	99.6%	471
12/9/2010	343	1.0	99.7%	99.6%	472
12/12/2010	220	0.5	99.8%	99.6%	473
12/14/2010	315	1.1	99.7%	99.6%	474
12/16/2010	295	1.2	99.6%	99.6%	475
12/19/2010	304	1.0	99.7%	99.6%	476
12/21/2010	269	1.2	99.6%	99.6%	477
12/23/2010	228	1.3	99.4%	99.6%	478
12/26/2010	287	1.2	99.6%	99.6%	479
12/28/2010	252	1.4	99.4%	99.6%	480
12/30/2010	204	1.4	99.3%	99.6%	481
1/2/2011	277	1.2	99.6%	99.6%	482
1/4/2011	240	1.3	99.5%	99.6%	483
1/6/2011	237	1.1	99.5%	99.6%	484

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
1/9/2011	241	1.3	99.5%	99.6%	485
1/11/2011	293	1.7	99.4%	99.6%	486
1/13/2011	264	1.8	99.3%	99.6%	487
1/16/2011	261	1.8	99.3%	99.6%	488
1/18/2011	286	1.7	99.4%	99.6%	489
1/20/2011	270	1.7	99.4%	99.6%	490
1/23/2011	256	1.8	99.3%	99.6%	491
1/25/2011	264	1.5	99.4%	99.6%	492
1/27/2011	288	1.2	99.6%	99.6%	493
1/30/2011	260	0.5	99.8%	99.6%	494
2/1/2011	264	0.5	99.8%	99.6%	495
2/3/2011	299	1.1	99.6%	99.6%	496
2/6/2011	245	1.3	99.5%	99.6%	497
2/8/2011	266	1.1	99.6%	99.6%	498
2/10/2011	284	1.3	99.5%	99.6%	499
2/13/2011	261	0.5	99.8%	99.6%	500
2/15/2011	305	1.0	99.7%	99.6%	501
2/17/2011	249	1.4	99.4%	99.6%	502
2/20/2011	215	1.4	99.3%	99.6%	503
2/22/2011	265	1.3	99.5%	99.6%	504
2/24/2011	265	1.2	99.5%	99.6%	505
2/27/2011	223	1.0	99.6%	99.6%	506
3/1/2011	283	0.5	99.8%	99.6%	507
3/3/2011	296	1.1	99.6%	99.6%	508
3/6/2011	308	1.0	99.7%	99.6%	509
3/8/2011	289	0.5	99.8%	99.6%	510
3/10/2011	287	1.0	99.7%	99.6%	511
3/13/2011	268	1.0	99.6%	99.6%	512
3/15/2011	253	1.0	99.6%	99.6%	513
3/17/2011	304	0.5	99.8%	99.7%	514
3/20/2011	233	1.2	99.5%	99.7%	515
3/22/2011	237	1.4	99.4%	99.7%	516
3/24/2011	239	1.1	99.5%	99.7%	517
3/27/2011	210	0.5	99.8%	99.7%	518
3/29/2011	234	0.5	99.8%	99.7%	519
3/31/2011	268	0.5	99.8%	99.7%	520
4/3/2011	250	0.5	99.8%	99.7%	521
4/5/2011	284	1.3	99.5%	99.7%	522
4/7/2011	260	1.5	99.4%	99.7%	523
4/10/2011	252	1.3	99.5%	99.7%	524
4/12/2011	293	1.4	99.5%	99.7%	525
4/14/2011	266	1.4	99.5%	99.7%	526
4/17/2011	252	1.2	99.5%	99.7%	527
4/19/2011	250	1.0	99.6%	99.7%	528

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
4/21/2011	279	1.0	99.6%	99.7%	529
4/24/2011	261	0.5	99.8%	99.7%	530
4/26/2011	274	0.5	99.8%	99.7%	531
4/28/2011	239	1.0	99.6%	99.7%	532
5/1/2011	259	0.5	99.8%	99.7%	533
5/3/2011	273	1.0	99.6%	99.7%	534
5/5/2011	244	1.0	99.6%	99.7%	535
5/8/2011	248	0.5	99.8%	99.7%	536
5/10/2011	286	1.2	99.6%	99.7%	537
5/12/2011	275	1.2	99.6%	99.7%	538
5/15/2011	229	0.5	99.8%	99.7%	539
5/17/2011	276	1.1	99.6%	99.7%	540
5/19/2011	293	1.1	99.6%	99.7%	541
5/22/2011	271	1.1	99.6%	99.7%	542
5/24/2011	264	1.2	99.5%	99.7%	543
5/26/2011	313	0.5	99.8%	99.7%	544
5/29/2011	214	1.2	99.4%	99.7%	545
5/31/2011	341	1.1	99.7%	99.7%	546
6/2/2011	268	0.5	99.8%	99.7%	547
6/5/2011	248	0.5	99.8%	99.7%	548
6/7/2011	250	0.5	99.8%	99.7%	549
6/9/2011	257	0.5	99.8%	99.7%	550
6/12/2011	270	1.0	99.6%	99.7%	551
6/14/2011	293	1.3	99.6%	99.7%	552
6/16/2011	322	1.0	99.7%	99.7%	553
6/19/2011	267	0.5	99.8%	99.7%	554
6/21/2011	301	0.5	99.8%	99.7%	555
6/23/2011	279	0.5	99.8%	99.7%	556
6/26/2011	272	0.5	99.8%	99.7%	557
6/28/2011	276	0.5	99.8%	99.7%	558
6/30/2011	310	1.0	99.7%	99.7%	559
7/3/2011	290	1.4	99.5%	99.7%	560
7/5/2011	266	1.3	99.5%	99.7%	561
7/7/2011	291	1.3	99.6%	99.7%	562
7/10/2011	255	1.0	99.6%	99.7%	563
7/12/2011	277	1.0	99.6%	99.7%	564
7/14/2011	308	0.5	99.8%	99.7%	565
7/17/2011	267	0.5	99.8%	99.7%	566
7/19/2011	295	0.5	99.8%	99.7%	567
7/21/2011	300	0.5	99.8%	99.7%	568
7/24/2011	297	1.0	99.7%	99.8%	569
7/26/2011	302	0.5	99.8%	99.8%	570
7/28/2011	344	1.0	99.7%	99.8%	571
7/31/2011	276	0.5	99.8%	99.8%	572

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
8/2/2011	297	0.5	99.8%	99.8%	573
8/4/2011	292	2.0	99.3%	99.8%	574
8/7/2011	304	0.5	99.8%	99.8%	575
8/9/2011	298	0.5	99.8%	99.8%	576
8/11/2011	317	1.1	99.7%	99.8%	577
8/14/2011	266	0.5	99.8%	99.8%	578
8/16/2011	313	0.5	99.8%	99.8%	579
8/18/2011	332	0.5	99.8%	99.8%	580
8/21/2011	257	0.5	99.8%	99.8%	581
8/23/2011	333	0.5	99.8%	99.8%	582
8/25/2011	308	0.5	99.8%	99.8%	583
8/28/2011	282	0.5	99.8%	99.8%	584
8/30/2011	311	1.0	99.7%	99.8%	585
9/1/2011	379	1.4	99.6%	99.8%	586
9/4/2011	269	0.5	99.8%	99.8%	587
9/6/2011	350	1.0	99.7%	99.8%	588
9/8/2011	293	1.7	99.4%	99.8%	589
9/11/2011	260	1.0	99.6%	99.8%	590
9/13/2011	305	1.7	99.4%	99.8%	591
9/15/2011	252	0.5	99.8%	99.8%	592
9/18/2011	262	1.0	99.6%	99.8%	593
9/20/2011	256	0.5	99.8%	99.8%	594
9/22/2011	309	1.1	99.6%	99.8%	595
9/25/2011	268	0.5	99.8%	99.8%	596
9/27/2011	275	1.1	99.6%	99.8%	597
9/29/2011	271	1.1	99.6%	99.8%	598
10/2/2011	276	1.2	99.6%	99.8%	599
10/4/2011	308	0.5	99.8%	99.8%	600
10/6/2011	294	0.5	99.8%	99.8%	601
10/9/2011	287	0.5	99.8%	99.8%	602
10/11/2011	349	1.0	99.7%	99.8%	603
10/13/2011	315	0.5	99.8%	99.8%	604
10/16/2011	315	1.1	99.7%	99.8%	605
10/18/2011	362	1.2	99.7%	99.8%	606
10/20/2011	312	1.6	99.5%	99.8%	607
10/23/2011	322	1.0	99.7%	99.8%	608
10/25/2011	277	1.6	99.4%	99.8%	609
10/27/2011	271	1.3	99.5%	99.8%	610
10/30/2011	238	0.5	99.8%	99.8%	611
11/1/2011	271	0.5	99.8%	99.8%	612
11/2/2011	279			99.8%	613
11/3/2011	261	0.5	99.8%	99.8%	614
11/6/2011	269	1.0	99.6%	99.8%	615
11/7/2011	270			99.8%	616

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
11/8/2011	268	1.1	99.6%	99.8%	617
11/10/2011	262	0.5	99.8%	99.8%	618
11/13/2011	235	1.1	99.5%	99.8%	619
11/15/2011	287	1.7	99.4%	99.8%	620
11/17/2011	269	1.4	99.5%	99.8%	621
11/20/2011	248	1.1	99.6%	99.8%	622
11/22/2011	245	0.5	99.8%	99.8%	623
11/24/2011	305	0.5	99.8%	99.8%	624
11/27/2011	239	1.0	99.6%	99.8%	625
11/29/2011	254	1.0	99.6%	99.8%	626
12/1/2011	279	0.5	99.8%	99.8%	627
12/4/2011	255	1.1	99.6%	99.8%	628
12/6/2011	260	1.2	99.5%	99.8%	629
12/8/2011	286	1.2	99.6%	99.8%	630
12/11/2011	257	1.4	99.5%	99.8%	631
12/13/2011	269	1.6	99.4%	99.8%	632
12/15/2011	268	1.4	99.5%	99.8%	633
12/18/2011	248	1.3	99.5%	99.8%	634
12/20/2011	247	1.3	99.5%	99.8%	635
12/22/2011	245	0.5	99.8%	99.8%	636
12/25/2011	314	1.2	99.6%	99.8%	637
12/27/2011	266	1.1	99.6%	99.8%	638
12/29/2011	283	1.7	99.4%	99.8%	639
1/1/2012	279	1.7	99.4%	99.8%	640
1/3/2012	261	2.1	99.2%	99.8%	641
1/5/2012	312	1.4	99.6%	99.8%	642
1/8/2012	238	1.3	99.5%	99.8%	643
1/10/2012	285	1.5	99.5%	99.8%	644
1/11/2012	296			99.8%	645
1/12/2012	321	1.3	99.6%	99.8%	646
1/15/2012	314	1.7	99.5%	99.8%	647
1/16/2012	344			99.8%	648
1/17/2012	278	1.5	99.5%	99.8%	649
1/18/2012	305			99.8%	650
1/19/2012	339	1.5	99.6%	99.8%	651
1/22/2012	294	1.8	99.4%	99.8%	652
1/24/2012	347	1.3	99.6%	99.8%	653
1/25/2012	373			99.8%	654
1/26/2012	320	1.3	99.6%	99.8%	655
1/29/2012	255	1.2	99.5%	99.8%	656
1/31/2012	288	1.1	99.6%	99.8%	657
2/2/2012	251	1.1	99.6%	99.8%	658
2/5/2012	271	1.2	99.6%	99.8%	659
2/7/2012	277	1.3	99.5%	99.8%	660

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
2/9/2012	270	1.7	99.4%	99.8%	661
2/12/2012	252	1.7	99.3%	99.8%	662
2/14/2012	266	1.1	99.6%	99.8%	663
2/16/2012	255	1.1	99.6%	99.8%	664
2/19/2012	301	1.2	99.6%	99.8%	665
2/21/2012	279	1.2	99.6%	99.8%	666
2/23/2012	267	1.2	99.6%	99.8%	667
2/26/2012	253	1.4	99.4%	99.8%	668
2/28/2012	281			99.8%	669
3/1/2012	324	2.0	99.4%	99.8%	670
3/4/2012	243	1.3	99.5%	99.8%	671
3/6/2012		1.1		99.9%	672
3/8/2012	257	1.0	99.6%	99.9%	673
3/11/2012	269	1.3	99.5%	99.9%	674
3/13/2012	284	1.4	99.5%	99.9%	675
3/15/2012	285	1.2	99.6%	99.9%	676
3/18/2012	273	1.6	99.4%	99.9%	677
3/20/2012	292	1.4	99.5%	99.9%	678
3/22/2012	293	1.2	99.6%	99.9%	679
3/25/2012	274	1.3	99.5%	99.9%	680
3/27/2012	297			99.9%	681
3/29/2012	323			99.9%	682
4/1/2012	278	1.4	99.5%	99.9%	683
4/3/2012	271	1.2	99.6%	99.9%	684
4/5/2012	303	1.5	99.5%	99.9%	685
4/8/2012	278	1.5	99.5%	99.9%	686
4/10/2012	292	1.5	99.5%	99.9%	687
4/12/2012	298	1.6	99.5%		
4/15/2012	282	1.5	99.5%		
4/17/2012	307	1.4	99.5%		
4/19/2012	316	1.5	99.5%		
4/22/2012	275	1.1	99.6%		
4/24/2012	338	1.2	99.6%		
4/26/2012	331	1.3	99.6%		
4/29/2012	286	1.2	99.6%		
5/1/2012	339	1.1	99.7%		
5/3/2012	343	1.4	99.6%		
5/6/2012	300	1.3	99.6%		
5/8/2012	436	1.9	99.6%		
5/10/2012	390	1.7	99.6%		
5/13/2012	282	1.6	99.4%		
5/15/2012	307	1.5	99.5%		
5/17/2012	310	1.4	99.5%		
5/20/2012	276	1.3	99.5%		

Table B-17: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Total Suspended Solids (TSS)

Date	TSS Influent (mg/L)	TSS Final Effluent (mg/L)	TSS Percent Removal	Percent Removal in Order	Rank
5/22/2012	293	1.5	99.5%		
5/24/2012	317	1.7	99.5%		
5/27/2012	296	1.3	99.6%		
5/29/2012	328	1.4	99.6%		
5/31/2012	324	1.9	99.4%		
6/3/2012	270	1.7	99.4%		
6/5/2012	293	1.5	99.5%		
6/7/2012	302	1.6	99.5%		
6/10/2012	236	1.6	99.3%		
6/12/2012	278	1.7	99.4%		
6/14/2012	271	1.5	99.4%		
6/17/2012	246	1.6	99.3%		
6/19/2012	284	2.0	99.3%		
6/21/2012	267	1.8	99.3%		
6/24/2012	237	1.6	99.3%		
6/26/2012	281	1.8	99.4%		
6/28/2012	259	1.9	99.3%		

*Asterisks indicate influent data removed due to being above 2.75 standard deviations or 466 mg/L; therefore, considered outliers.

<u>**TSS Removal Rate Calculations**</u>

Total Number of Samples =	687
Median =	99.5%
ADRE =	**99.5%**
MRE =	99.5%
To calculate the removal rate at the 3rd decile	206
Rank of 3rd decile = Sample Size* (30%) = 596*(0.3) =	
Used linear regression to compute the appropriate percentile	
X = 3rd decile removal rate	
3rd Decile Removal Rate =	**99.4%**

<u>**Maximum and Minimum Values**</u>

Maximum Raw Sewage (mg/L) =	**466**
Average Raw Sewage (mg/L) =	**291**
Maximum Final Effluent (mg/L) =	**4.30**
Average Final Effluent (mg/L) =	**1.43**

Table B-18: Influent and Effluent Data and Final Effluent Removal Efficiency Calculations for Phenol

Date	Phenol Influent (µg/L)	Phenol Final Effluent (µg/L)	Phenol Percent Removal	Percent Removal in Order	Rank
3/25/08	11	0.38	97%	51%	1
9/3/08	6.1	0.375	94%	94%	2
3/3/09	15	0.38	97%	96%	3
9/1/09	0.7	0.345	51%	97%	4
3/1/10	8.2	0.345	96%	97%	5
9/1/10	11	0.345	97%	97%	6
3/1/11	7.23	0.215	97%	97%	7
9/1/11	6.67	0.215	97%	97%	8
3/1/12	9.47	0.215	98%	98%	9

*Due to limited number of results, no outliers removed.

Phenol Removal Rate Calculations

Total Number of Samples	9
Median =	97%
ADRE =	**91%**
MRE =	**96%**

To calculate the removal rate at the 3rd decile	
Rank of 3rd decile = Sample Size* (30%) = 10*(0.3) =	3
Used linear regression to compute the appropriate percentile	
3rd Decile Removal Rate =	**96%**

Maximum and Average Values

Maximum Raw Sewage (µg/L) =	**15**
Average Raw Sewage (µg/L) =	**8**
Maximum Final Effluent (µg/L) =	**0.4**
Average Final Effluent (µg/L) =	**0.3**

Appendix C: San Jose/Santa Clara Water Pollution Control Plant Influent and Effluent Data for Screening Other Pollutants

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
1,1,1-Trichloroethane				
3/4/08			ND	0.48
3/25/08	ND	0.14	ND	0.14
9/3/08	ND	0.14	ND	0.14
3/3/09	ND	0.14	ND	0.14
9/1/09	ND	0.95	ND	0.95
3/1/10	ND	0.95	ND	0.95
9/1/10	ND	0.95	ND	0.95
3/8/11	ND	0.95	ND	0.95
9/1/11	ND	0.27	ND	0.27
3/12/12	ND	0.26	ND	0.26
1,1,2,2-Tetrachloroethane				
3/4/08			ND	0.51
3/25/08	ND	0.36	ND	0.36
9/3/08	ND	0.36	ND	0.36
3/3/09	ND	0.36	ND	0.36
9/1/09	ND	0.5	ND	0.1
3/1/10	ND	0.5	ND	0.1
9/1/10	ND	0.5	ND	0.1
3/8/11	ND	0.5	ND	0.1
9/1/11	ND	0.24	ND	0.24
3/12/12	ND	0.13	ND	0.14
1,1,2-Trichloroethane				
3/4/08			ND	0.45
3/25/08	ND	0.16	ND	0.16
9/3/08	ND	0.16	ND	0.16
3/3/09	ND	0.16	ND	0.16
9/1/09	ND	0.8	ND	0.16
3/1/10	ND	0.8	ND	0.16
9/1/10	ND	0.8	ND	0.16
3/8/11	ND	0.8	ND	0.16
9/1/11	ND	0.25	ND	0.25
3/12/12	ND	0.22	ND	0.22

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
1,1-Dichloroethane				
3/4/08			ND	0.61
3/25/08	ND	0.23	ND	0.23
9/3/08	ND	0.23	ND	0.23
3/3/09	ND	0.23	ND	0.23
9/1/09	ND	0.95	ND	0.19
3/1/10	ND	0.95	ND	0.19
9/1/10	ND	0.95	ND	0.19
3/8/11	ND	0.95	ND	0.19
9/1/11	ND	0.17	ND	0.17
3/12/12	ND	0.28	ND	0.28
1,1-Dichloroethene				
3/4/08			ND	0.74
3/25/08	ND	0.1	ND	0.1
9/3/08	ND	0.1	ND	0.1
3/3/09	ND	0.1	ND	0.1
9/1/09	ND	1	ND	0.21
3/1/10	ND	1	ND	0.21
9/1/10	ND	1	ND	0.21
3/8/11	ND	1	ND	0.21
9/1/11	ND	0.27	ND	0.27
3/12/12	ND	0.26	ND	0.26
1,2-Dichlorobenzene				
3/4/08			ND	0.35
3/25/08	ND	0.16	ND	0.16
9/3/08	ND	0.16	ND	0.16
3/3/09	ND	0.16	ND	0.16
9/1/09	ND	1.4	ND	0.27
3/1/10	ND	1.4	ND	0.27
9/1/10	ND	1.4	ND	0.27
3/8/11	ND	1.4	ND	0.27
9/1/11	ND	0.34	ND	0.34
3/12/12	ND	0.29	ND	0.29

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
1,2-Dichloroethane				
3/4/08			ND	0.44
3/25/08	ND	0.19	ND	0.19
9/3/08	ND	0.19	ND	0.19
3/3/09	ND	0.19	ND	0.19
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.16	ND	0.16
3/12/12	ND	0.23	ND	0.23
1,2-Dichloropropane				
3/4/08			ND	0.61
3/25/08	ND	0.19	ND	0.19
9/3/08	ND	0.19	ND	0.19
3/3/09	ND	0.19	ND	0.19
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.21	ND	0.21
3/12/12	ND	0.18	ND	0.18
1,3-Dichlorobenzene				
3/4/08			ND	0.36
3/25/08	ND	0.19	ND	0.19
9/3/08	ND	0.19	ND	0.19
3/3/09	ND	0.19	ND	0.19
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.3	ND	0.3
3/12/12	ND	0.24	ND	0.24

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
1,4-Dichlorobenzene (2600 µg/L WQC limit)				
3/4/08			ND	0.2
3/25/08	ND	0.14	ND	0.14
9/3/08	0.69	0.14	0.2	0.14
3/3/09	0.4	0.14	ND	0.14
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.28	ND	0.28
3/12/12	ND	0.25	ND	0.25
2-Chloroethyl vinyl ether				
3/4/08			ND	1
3/25/08	ND	0.32	ND	0.32
9/3/08	ND	0.32	ND	0.32
3/3/09	ND	0.32	ND	0.32
9/1/09	ND	1.4	ND	0.28
3/1/10	ND	1.4	ND	0.28
9/1/10	ND	1.4	ND	0.28
3/8/11	ND	1.4	ND	0.28
9/1/11	ND	0.28	ND	0.28
3/12/12	ND	0.28	ND	0.28
Acrolein				
3/4/08			ND	2.1
3/25/08			ND	2.1
9/3/08	ND	2.1	ND	2.1
3/3/09	ND	2.1	ND	2.1
9/1/09	ND	8.5	ND	1.7
3/1/10	ND	8.5	ND	1.7
9/1/10	ND	8.5	ND	1.7
3/8/11	ND	8.5	ND	1.7
9/1/11	ND	0.92	ND	0.92
3/12/12	ND	1.45	ND	1.45

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Acrylonitrile				
3/4/08			ND	1.3
3/25/08	ND	1.2	ND	1.2
9/3/08	ND	1.2	ND	1.2
3/3/09	ND	1.2	ND	1.2
9/1/09	ND	3.4	ND	0.69
3/1/10	ND	3.4	ND	0.69
9/1/10	ND	3.4	ND	0.69
3/8/11	ND	3.4	ND	0.69
9/1/11	ND	1.41	ND	1.41
3/12/12	ND	1.68	ND	1.68
Benzene				
3/4/08			ND	0.51
3/25/08	ND	0.11	ND	0.11
9/3/08	ND	0.11	ND	0.11
3/3/09	ND	0.11	ND	0.11
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.2	ND	0.2
3/12/12	ND	0.29	ND	0.29
Bromodichloromethane (46 µg/L WQC limit)				
3/4/08			1.8	0.49
3/25/08	0.34	0.14	1.6	0.14
9/3/08	ND	0.14	2	0.14
3/3/09	0.6	0.14	2.7	0.14
9/1/09	ND	0.8	2.6	0.16
3/1/10	ND	0.8	3.9	0.16
9/1/10	ND	0.8	4.6	0.16
3/8/11	ND	0.8	1.3	0.16
9/1/11	ND	0.24	0.53	0.24
3/12/12	0.42	0.19	20.2	0.19

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Bromoform (360 µg/L WQC limit)				
3/4/08			ND	0.38
3/25/08	0.42	0.27	ND	0.27
9/3/08	0.29	0.27	ND	0.27
3/3/09	ND	0.27	ND	0.27
9/1/09	ND	0.75	ND	0.15
3/1/10	ND	0.75	0.2	0.15
9/1/10	ND	0.75	ND	0.15
3/8/11	ND	0.75	ND	0.15
9/1/11	ND	0.27	ND	0.27
3/12/12	ND	0.28	ND	0.28
Bromomethane				
3/4/08			ND	1.4
3/25/08	ND	0.25	ND	0.25
9/3/08	ND	0.25	ND	0.25
3/3/09	ND	0.25	ND	0.25
9/1/09	ND	0.85	ND	0.17
3/1/10	ND	0.85	ND	0.17
9/1/10	ND	0.85	ND	0.17
3/8/11	ND	0.85	ND	0.17
9/1/11	ND	0.23	ND	0.23
3/12/12	ND	0.37	ND	0.37
Carbon tetrachloride				
3/4/08			ND	0.49
3/25/08	ND	0.19	ND	0.19
9/3/08	ND	0.19	ND	0.19
3/3/09	ND	0.19	ND	0.19
9/1/09	ND	0.8	ND	0.16
3/1/10	ND	0.8	ND	0.16
9/1/10	ND	0.8	ND	0.16
3/8/11	ND	0.8	ND	0.16
9/1/11	ND	0.38	ND	0.38
3/12/12	ND	0.25	ND	0.38

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Chlorobenzene				
3/4/08			ND	0.44
3/25/08	ND	0.21	ND	0.21
9/3/08	ND	0.21	ND	0.21
3/3/09	ND	0.21	ND	0.21
9/1/09	ND	0.9	ND	0.18
3/1/10	ND	0.9	ND	0.18
9/1/10	ND	0.9	ND	0.18
3/8/11	ND	0.9	ND	0.18
9/1/11	ND	0.24	ND	0.24
3/12/12	ND	0.17	ND	0.17
Chloroethane				
3/4/08			ND	0.81
3/25/08	ND	0.51	ND	0.51
9/3/08	ND	0.51	ND	0.51
3/3/09	ND	0.51	ND	0.51
9/1/09	ND	1.9	ND	0.38
3/1/10	ND	1.9	ND	0.38
9/1/10	ND	1.9	ND	0.38
3/8/11	ND	1.9	ND	0.38
9/1/11	ND	0.41	ND	0.41
3/12/12	ND	0.21	ND	.0.36
Chloroform (No criteria)				
3/4/08			3.4	0.53
3/25/08	3.1	0.16	2.9	0.16
9/3/08	2.7	0.16	3.3	0.16
3/3/09	3	0.16	3.7	0.16
9/1/09	ND	0.95	4.2	0.19
3/1/10	3.9	0.95	7.3	0.19
9/1/10	3.2	0.95	5.9	0.19
3/8/11	3.8	0.95	3.2	0.19
9/1/11	3.3	0.1	2	0.1
3/12/12	3.3	0.32	34.9	0.32

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Chloromethane				
3/4/08			ND	0.85
3/25/08	ND	0.85	ND	0.85
9/3/08	ND	0.5	ND	0.5
3/3/09	ND	0.5	ND	0.5
9/1/09	ND	1.2	ND	0.23
3/1/10	ND	1.2	ND	0.23
9/1/10	ND	1.2	ND	0.23
3/8/11	ND	1.2	ND	0.23
9/1/11	ND	0.32	ND	0.32
3/12/12	ND	0.21	ND	0.21
Cis-1,3-dichloropropene				
3/4/08			ND	0.45
3/25/08	ND	0.14	ND	0.14
9/3/08	ND	0.14	ND	0.14
3/3/09	ND	0.14	ND	0.14
9/1/09	ND	0.8	ND	0.16
3/1/10	ND	0.8	ND	0.16
9/1/10	ND	0.8	ND	0.16
3/8/11	ND	0.8	ND	0.16
9/1/11	ND	0.2	ND	0.2
3/12/12	ND	28	ND	0.28
Dibromochloromethane (34 µg/L WQC limit)				
3/4/08			0.84	0.44
3/25/08	0.37	0.16	0.81	0.16
9/3/08	0.18	0.16	1	0.16
3/3/09	0.63	0.16	1.4	0.16
9/1/09	ND	0.85	1.2	0.17
3/1/10	ND	0.85	1.6	0.17
9/1/10	ND	0.85	2.3	0.17
3/8/11	ND	0.85	0.5	0.17
9/1/11	ND	0.28	ND	0.28
3/12/12	0.52	0.31	13.9	0.31

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Dichlorodifluoromethane				
3/4/08			ND	0.05
3/25/08			ND	0.05
9/1/09	ND	1	ND	0.2
3/1/10	ND	1	ND	0.2
9/1/10	ND	1	ND	0.2
3/8/11	ND	1	ND	0.2
9/1/11	ND	0.24	ND	0.24
3/12/12	ND	0.24	ND	0.24
Ethylbenzene (29,000 µg/L WQC limit)				
3/4/08			ND	0.41
3/25/08	1.7	0.3	ND	0.3
9/3/08	1.2	0.3	ND	0.3
3/3/09	0.42	0.3	ND	0.3
9/1/09	ND	1.3	ND	0.26
3/1/10	ND	1.3	ND	0.26
9/1/10	ND	1.3	ND	0.26
3/8/11	ND	1.3	ND	0.26
9/1/11	1.16	0.21	ND	0.21
3/12/12	1.0	0.22	ND	0.22
M&P-xylene (NA)				
3/4/08			ND	0.23
3/25/08			ND	0.23
3/1/10			ND	0.23
9/1/10			ND	0.23
3/8/11	ND	0.23	ND	0.23
9/1/11	1.25	0.46	ND	0.46

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Methylene chloride (1600 µg/L WQC limit)				
3/4/08			ND	1.6
3/25/08	0.63	0.09	ND	0.09
9/3/08	1.6	0.09	ND	0.09
3/3/09	1.2	0.09	1.3	0.09
9/1/09	ND	1	ND	0.2
3/1/10	ND	1	0.2	0.2
9/1/10	ND	1	0.2	0.2
3/8/11	ND	1	0.3	0.2
9/1/11	9.4	0.2	0.47	0.2
3/12/12	1.4	0.24	0.45	0.24
O-xylene (NA)				
3/4/08			ND	0.11
3/25/08			ND	0.11
3/1/10			ND	0.11
9/1/10			ND	0.11
3/8/11	ND	0.11	ND	0.11
9/1/11	0.36	0.2	ND	0.2
Tetrachloroethene (8.9 µg/L WQC limit)				
3/4/08			ND	0.66
3/25/08	0.23	0.09	ND	0.09
9/3/08	ND	0.09	ND	0.09
3/3/09	0.22	0.09	ND	0.09
9/1/09	ND	0.95	ND	0.19
3/1/10	ND	0.95	ND	0.19
9/1/10	ND	0.95	ND	0.19
3/8/11	ND	0.95	ND	0.19
9/1/11	ND	0.35	ND	0.35
3/12/12	ND	0.28	ND	0.28

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Toluene (200,000 µg/L WQC limit)				
3/4/08			ND	0.51
3/25/08	3.2	0.14	0.94	0.14
9/3/08	8.9	0.14	0.22	0.14
3/3/09	2.1	0.14	1	0.14
9/1/09	5.8	0.95	ND	0.19
3/1/10	2.9	0.95	1	0.19
9/1/10	ND	0.95	0.3	0.19
3/8/11	2.5	0.95	0.4	0.19
9/1/11	2	0.16	ND	0.16
3/12/12	4.2	0.24	0.65	0..24
Trans-1,2-dichloroethene				
3/4/08			ND	0.57
3/25/08	ND	0.11	ND	0.11
9/3/08	ND	0.11	ND	0.11
3/3/09	ND	0.11	ND	0.11
9/1/09	ND	1.1	ND	0.22
3/1/10	ND	1.1	ND	0.22
9/1/10	ND	1.1	ND	0.22
3/8/11	ND	1.1	ND	0.22
9/1/11	ND	0.22	ND	0.22
3/12/12	ND	0.34	ND	0.34
Trans-1,3-dichloropropene (1700 µg/L WQC limit)				
3/4/08			ND	0.4
3/25/08	ND	0.14	ND	0.14
9/3/08	ND	0.14	ND	0.14
3/3/09	ND	0.14	ND	0.14
9/1/09	ND	0.8	ND	0.16
3/1/10	ND	0.8	ND	0.16
9/1/10	ND	0.8	ND	0.16
3/8/11	ND	0.8	ND	0.16
9/1/11	0.99	0.19	0.52	0.19
3/12/12	0.99	0.24	0.52	0.24

Table C-1: Influent and Effluent Data for Volatile Organics Analytical Method 624

Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Trichloroethene (81 µg/L WQC limit)				
3/4/08			ND	0.59
3/25/08	0.25	0.16	ND	0.16
9/3/08	ND	0.16	ND	0.16
3/3/09	0.17	0.16	ND	0.16
9/1/09	ND	1	ND	0.2
3/1/10	ND	1	ND	0.2
9/1/10	ND	1	ND	0.2
3/8/11	ND	1	ND	0.2
9/1/11	ND	0.2	ND	0.2
3/12/12	ND	0.27	ND	0.27
Trichlorofluoromethane				
3/4/08			ND	0.38
3/25/08	ND	0.11	ND	0.11
9/3/08	ND	0.11	ND	0.11
3/3/09	ND	0.11	ND	0.11
9/1/09	ND	1.4	ND	0.29
3/1/10	ND	1.4	ND	0.29
9/1/10	ND	1.4	ND	0.29
3/8/11	ND	1.4	ND	0.29
9/1/11	ND	0.27	ND	0.27
3/12/12	ND	0.27	ND	0.27
Vinyl chloride				
3/4/08			ND	0.74
3/25/08	ND	0.42	ND	0.42
9/3/08	ND	0.42	ND	0.42
3/3/09	ND	0.42	ND	0.42
9/1/09	ND	1.2	ND	0.25
3/1/10	ND	1.2	ND	0.25
9/1/10	ND	1.2	ND	0.25
3/8/11	ND	1.2	ND	0.25
9/1/11	ND	0.26	ND	0.26
3/12/12	ND	0.23	ND	0.23

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
1,2,4-Trichlorobenzene				
3/25/08	ND	0.81	ND	0.81
9/3/08	ND	4	ND	0.8
3/3/09	ND	0.8	ND	0.81
9/1/09	ND	2	ND	0.98
3/1/10	ND	4.9	ND	0.98
9/1/10	ND	9.8	ND	0.98
3/1/11	ND	0.83	ND	0.83
9/1/11	ND	0.83	ND	0.83
3/1/12	ND	0.83	ND	0.83
1,2-Diphenyl-hydrazine				
3/3/09	ND	0.6	ND	0.61
9/1/09	ND	1.8	ND	0.9
3/1/10	ND	4.5	ND	0.9
9/1/10	ND	9	ND	0.9
3/1/11	ND	0.63	ND	0.63
9/1/11	ND	0.63	ND	0.63
3/1/12	ND	0.63	ND	0.63
2,4,5-Trichlorophenol				
3/1/11	ND	0.92	ND	0.92
9/1/11	ND	0.92	ND	0.92
3/1/12	ND	0.92	ND	0.92
2,4,6-Trichlorophenol				
3/25/08	ND	0.93	ND	0.93
9/3/08	ND	4.6	ND	0.92
3/3/09	ND	0.92	ND	0.93
9/1/09	ND	1.9	ND	0.97
3/1/10	ND	4.8	ND	0.97
9/1/10	ND	9.7	ND	0.97
3/1/11	ND	0.71	ND	0.71
9/1/11	ND	0.71	ND	0.71
3/1/12	ND	0.71	ND	0.71

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
2,4-Dichlorophenol				
3/25/08	ND	0.75	ND	0.75
9/3/08	ND	3.7	ND	0.74
3/3/09	ND	0.74	ND	0.75
9/1/09	ND	2	ND	0.99
3/1/10	ND	5	ND	0.99
9/1/10	ND	9.9	ND	0.99
3/1/11	ND	0.9	ND	0.9
9/1/11	ND	0.9	ND	0.9
3/1/12	ND	0.9	ND	0.9
2,4-Dimethylphenol				
3/25/08	ND	1.2	ND	1.2
9/3/08	ND	5.7	ND	1.1
3/3/09	ND	1.1	ND	1.2
9/1/09	ND	1.7	ND	0.87
3/1/10	ND	4.4	ND	0.87
9/1/10	ND	8.7	ND	0.87
3/1/11	ND	0.88	ND	0.88
9/1/11	ND	0.88	ND	0.88
3/1/12	ND	0.88	ND	0.88
2,4-Dinitrophenol				
3/25/08	ND	1.1	ND	1.1
9/3/08	ND	5.2	ND	1
3/3/09	ND	1	ND	1.1
9/1/09	ND	1.7	ND	0.83
3/1/10	ND	4.2	ND	0.83
9/1/10	ND	8.3	ND	0.83
3/1/11	ND	0.33	ND	0.33
9/1/11	ND	0.33	ND	0.33
3/1/12	ND	0.33	ND	0.33

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
2,4-Dinitrotoluene				
3/25/08	ND	0.4	ND	0.4
9/3/08	ND	2	ND	0.4
3/3/09	ND	0.4	ND	0.4
9/1/09	ND	1.9	ND	0.96
3/1/10	ND	4.8	ND	0.96
9/1/10	ND	9.6	ND	0.96
3/1/11	ND	0.48	ND	0.48
9/1/11	ND	0.48	ND	0.48
3/1/12	ND	0.48	ND	0.48
2,6-Dinitrotoluene (no criteria)				
3/25/08	ND	0.49	ND	0.49
9/3/08	ND	2.4	ND	0.49
3/3/09	ND	0.49	ND	0.49
9/1/09	ND	2	ND	0.98
3/1/10	ND	4.9	ND	0.98
9/1/10	ND	9.8	ND	0.98
3/1/11	0.26	0.65	ND	0.65
9/1/11	0.73	0.65	ND	0.65
3/1/12	0.73	0.65	ND	0.65
2-Chloronaphthalene				
3/25/08	ND	0.58	ND	0.58
9/3/08	ND	2.9	ND	0.57
3/3/09	ND	0.57	ND	0.58
9/1/09	ND	2	ND	0.98
3/1/10	ND	4.9	ND	0.98
9/1/10	ND	9.8	ND	0.98
3/1/11	ND	0.88	ND	0.88
9/1/11	ND	0.88	ND	0.88
3/1/12	ND	0.88	ND	0.88

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
2-Chlorophenol				
3/25/08	ND	0.52	ND	0.52
9/3/08	ND	2.6	ND	0.51
3/3/09	ND	0.51	ND	0.52
9/1/09	ND	2	ND	0.98
3/1/10	ND	4.9	ND	0.98
9/1/10	ND	9.8	ND	0.98
3/1/11	ND	0.88	ND	0.88
9/1/11	ND	0.88	ND	0.88
3/1/12	ND	0.88	ND	0.88
2-Nitrophenol				
3/25/08	ND	0.46	ND	0.46
9/3/08	ND	2.3	ND	0.46
3/3/09	ND	0.46	ND	0.46
9/1/09	ND	1.8	ND	0.89
3/1/10	ND	4.4	ND	0.89
9/1/10	ND	8.9	ND	0.89
3/1/11	ND	0.79	ND	0.79
9/1/11	ND	0.79	ND	0.79
3/1/12	ND	0.79	ND	0.79
3,3'-Dichlorobenzidine				
3/25/08	ND	2	ND	2
9/3/08	ND	9.9	ND	2
3/3/09	ND	2	ND	2
9/1/09	ND	10	ND	5
3/1/10	ND	25	ND	5
9/1/10	ND	50	ND	5
3/1/11	ND	0.88	ND	0.88
9/1/11	ND	0.88	ND	0.88
3/1/12	ND	0.88	ND	0.88

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
4,6-Dinitro-2-methylphenol				
3/25/08	ND	1.1	ND	1.1
9/3/08	ND	5.2	ND	1
3/3/09	ND	1	ND	1.1
9/1/09	ND	1.8	ND	0.91
3/1/10	ND	4.6	ND	0.91
9/1/10	ND	9.1	ND	0.91
3/1/11	ND	0.2	ND	0.2
9/1/11	ND	0.2	ND	0.2
3/1/12	ND	0.2	ND	0.2
4-Bromophenylphenylether				
3/25/08	ND	0.63	ND	0.63
9/3/08	ND	3.1	ND	0.63
3/3/09	ND	0.63	ND	0.63
9/1/09	ND	1.9	ND	0.97
3/1/10	ND	4.8	ND	0.97
9/1/10	ND	9.7	ND	0.97
3/1/11	ND	0.71	ND	0.71
9/1/11	ND	0.71	ND	0.71
3/1/12	ND	0.71	ND	0.71
4-Chloro-3-methylphenol				
3/25/08	ND	0.67	ND	0.67
9/3/08	ND	3.3	ND	0.67
3/3/09	ND	0.67	ND	0.67
9/1/09	ND	1.8	ND	0.91
3/1/10	ND	4.6	ND	0.91
9/1/10	ND	9.1	ND	0.91
3/1/11	ND	0.82	ND	0.82
9/1/11	ND	0.82	ND	0.82
3/1/12	ND	0.82	ND	0.82

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
4-Chlorophenylphenylether				
3/25/08	ND	0.59	ND	0.59
9/3/08	ND	2.9	ND	0.58
3/3/09	ND	0.58	ND	0.59
9/1/09	ND	2	ND	0.99
3/1/10	ND	5	ND	0.99
9/1/10	ND	9.9	ND	0.99
3/1/11	ND	0.84	ND	0.84
9/1/11	ND	0.84	ND	0.84
3/1/12	ND	0.84	ND	0.84
4-Nitrophenol				
3/25/08	ND	2	ND	2
9/3/08	ND	9.9	ND	2
3/3/09	ND	2	ND	2
9/1/09	ND	1.7	ND	0.83
3/1/10	ND	4.2	ND	0.83
9/1/10	ND	8.3	ND	0.83
3/1/11	ND	0.26	ND	0.26
9/1/11	ND	0.26	ND	0.26
3/1/12	ND	0.26	ND	0.26
Acenaphthene				
3/25/08	ND	0.55	ND	0.55
9/3/08	ND	2.7	ND	0.54
3/3/09	ND	0.54	ND	0.55
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.014	ND	0.014
9/1/11	ND	0.014	ND	0.014
3/1/12	ND	0.013	ND	0.013

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Acenaphthylene				
3/25/08	ND	0.8	ND	0.8
9/3/08	ND	4	ND	0.79
3/3/09	ND	0.79	ND	0.8
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.01	ND	0.01
9/1/11	ND	0.01	ND	0.01
3/1/12	ND	0.015	ND	0.015
Anthracene				
3/25/08	ND	0.72	ND	0.72
9/3/08	ND	3.5	ND	0.71
3/3/09	ND	0.71	ND	0.72
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.016	ND	0.016
9/1/11	ND	0.016	ND	0.016
3/1/12	ND	0.017	ND	0.017
Azobenzene				
3/25/08	ND	0.61	ND	0.61
9/3/08	ND	3	ND	0.6
3/3/09	ND	0.6	ND	0.61
3/1/10	ND	0.64	ND	0.64
3/1/11	ND	0.63	ND	0.63
9/1/11	ND	0.63	ND	0.63
3/1/12	ND	0.63	ND	0.63

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Benzidine				
3/25/08	ND	5.3	ND	5.3
9/3/08	ND	26	ND	5.2
3/3/09	ND	5.2	ND	5.3
9/1/09	ND	10	ND	5
3/1/10	ND	25	ND	5
9/1/10	ND	50	ND	5
3/1/11	ND	1.59	ND	1.59
9/1/11	ND	1.59	ND	1.59
3/1/12	ND	1.59	ND	1.59
Benzo(a)anthracene				
3/25/08	ND	0.4	ND	0.4
9/3/08	ND	2	ND	0.4
3/3/09	ND	0.4	ND	0.4
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.009	ND	0.009
9/1/11	ND	0.009	ND	0.009
3/1/12	ND	0.013	ND	0.013
Benzo(a)pyrene				
3/25/08	ND	0.88	ND	0.88
9/3/08	ND	4.4	ND	0.88
3/3/09	ND	0.88	ND	0.88
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.006	ND	0.006
9/1/11	ND	0.006	ND	0.006
3/1/12	ND	0.01	ND	0.01

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Benzo(b)fluoranthene (0.049 µg/L WQC limit)				
3/25/08	ND	0.58	ND	0.58
9/3/08	ND	2.9	ND	0.57
3/3/09	ND	0.57	ND	0.58
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.007	ND	0.007
9/1/11	ND	0.007	ND	0.007
3/1/12	0.042	0.007	ND	0.007
Benzo(g,h,i)perylene				
3/25/08	ND	1.4	ND	1.4
9/3/08	ND	6.8	ND	1.4
3/3/09	ND	1.4	ND	1.4
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.007	0.009	0.007
9/1/11	ND	0.007	ND	0.007
3/1/12	ND	0.01	ND	0.01
Benzo(k)fluoranthene				
3/25/08	ND	0.71	ND	0.71
9/3/08	ND	3.5	ND	0.7
3/3/09	ND	0.7	ND	0.71
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.005	ND	0.005
9/1/11	ND	0.005	ND	0.005
3/1/12	ND	0.014	ND	0.014

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
bis(2-Chloroethoxy)methane				
3/25/08	ND	0.88	ND	0.88
9/3/08	ND	4.4	ND	0.88
3/3/09	ND	0.88	ND	0.88
9/1/09	ND	1.9	ND	0.93
3/1/10	ND	4.6	ND	0.93
9/1/10	ND	9.3	ND	0.93
3/1/11	ND	0.93	ND	0.93
9/1/11	ND	0.93	ND	0.93
3/1/12	ND	0.93	ND	0.93
bis(2-Chloroethyl)ether				
3/25/08	ND	0.59	ND	0.59
9/3/08	ND	2.9	ND	0.58
3/3/09	ND	0.58	ND	0.59
9/1/09	ND	1.9	ND	0.95
3/1/10	ND	4.8	ND	0.95
9/1/10	ND	9.5	ND	0.95
3/1/11	ND	0.93	ND	0.93
9/1/11	ND	0.93	ND	0.93
3/1/12	ND	0.93	ND	0.93
bis(2-chloroisopropyl)ether				
3/25/08	ND	0.6	ND	0.6
9/3/08	ND	3	ND	0.59
3/3/09	ND	0.59	ND	0.6
9/1/09	ND	1.6	ND	0.81
3/1/10	ND	4	ND	0.81
9/1/10	ND	8.1	ND	0.81
9/1/11	ND	0.97	ND	0.97
9/1/11	ND	0.97	ND	0.97
3/1/12	ND	0.97	ND	0.97

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
bis(2-Ethylhexyl)phthalate (5.9 µg/L WQC limit)				
3/25/08	14	0.56	2	0.56
9/3/08	110	2.8	ND	0.55
3/3/09	8.3	0.55	ND	0.56
9/1/09	20	1.9	ND	0.95
3/1/10	52	4.8	1.6	0.95
9/1/10	32	9.5	ND	0.95
3/1/11	8.01	1.12	ND	1.12
9/1/11	1.86	1.12	ND	1.12
3/1/12	20	1.12	ND	1.12
Butylbenzylphthalate (5,200 µg/L WQC limit)				
3/25/08	2.5	0.44	ND	0.44
9/3/08	6	2.2	0.73	0.44
3/3/09	1.2	0.44	0.52	0.44
9/1/09	2.8	2	ND	0.98
3/1/10	11	4.9	ND	0.98
9/1/10	ND	9.8	ND	0.98
3/1/11	0.43	0.72	ND	0.72
9/1/11	0.95	0.72	ND	0.72
3/1/12	0.95	0.72	ND	0.72
Chrysene				
3/25/08	ND	0.35	ND	0.35
9/3/08	ND	1.7	ND	0.34
3/3/09	ND	0.34	ND	0.35
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.009	ND	0.009
9/1/11	ND	0.009	ND	0.009
3/1/12	ND	0.01	ND	0.01

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Dibenz(a,h)anthracene				
3/25/08	ND	0.54	ND	0.54
9/3/08	ND	2.7	ND	0.53
3/3/09	ND	0.53	ND	0.54
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.004	0.011	0.004
9/1/11	ND	0.004	ND	0.004
9/1/11	ND	0.013	ND	0.013
Diethylphthalate (290,000 µg/L WQC limit)				
3/25/08	4.3	0.64	ND	0.64
9/3/08	ND	3.2	ND	0.64
3/3/09	2.1	0.64	ND	0.64
9/1/09	6	1.7	ND	0.86
3/1/10	5.7	4.3	ND	0.86
9/1/10	ND	8.6	ND	0.86
3/1/11	0.58	0.54	ND	0.54
9/1/11	4.3	0.54	ND	0.54
3/1/12	2.03	0.54	ND	0.54
Dimethylphthalate				
3/25/08	ND	0.75	ND	0.75
9/3/08	ND	3.7	ND	0.74
3/3/09	ND	0.74	ND	0.75
9/1/09	ND	1.9	ND	0.97
3/1/10	ND	4.8	ND	0.97
9/1/10	ND	9.7	ND	0.97
3/1/11	ND	0.42	ND	0.42
9/1/11	ND	0.42	ND	0.42
3/1/12	ND	0.42	ND	0.42

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Di-n-butylphthalate (12,000 µg/L WQC limit)				
3/25/08	2.3	1.6	ND	1.6
9/3/08	ND	7.8	ND	1.6
3/3/09	ND	1.6	ND	1.6
9/1/09	ND	1.8	ND	0.91
3/1/10	ND	4.6	ND	0.91
9/1/10	ND	9.1	ND	0.91
3/1/11	2.97	0.74	ND	0.74
9/1/11	0.95	0.74	ND	0.74
3/1/12	1.2	0.74	ND	0.74
Di-n-octylphthalate				
3/25/08	ND	0.81	ND	0.81
9/3/08	ND	4	ND	0.8
3/3/09	ND	0.8	ND	0.81
9/1/09	ND	1.8	ND	0.92
3/1/10	ND	4.6	ND	0.92
9/1/10	ND	9.2	ND	0.92
3/1/11	ND	0.52	ND	0.52
9/1/11	ND	0.52	ND	0.52
3/1/12	ND	0.52	ND	0.52
Fluoranthene				
3/25/08	ND	0.55	ND	0.55
9/3/08	ND	2.7	ND	0.54
3/3/09	ND	0.54	ND	0.55
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.031	ND	0.031
9/1/11	ND	0.031	ND	0.031
3/1/12	ND	0.036	ND	0.036

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Fluorene (14,000 µg/L WQC limit)				
3/25/08	ND	0.48	ND	0.48
9/3/08	ND	2.4	ND	0.48
3/3/09	ND	0.48	ND	0.48
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.02	ND	0.02
9/1/11	0.03	0.02	ND	0.02
3/1/12	ND	0.025	ND	0.025
Hexachlorobenzene				
3/25/08	ND	0.6	ND	0.6
9/3/08	ND	3	ND	0.59
3/3/09	ND	0.59	ND	0.6
9/1/09	ND	1.8	ND	0.91
3/1/10	ND	4.6	ND	0.91
9/1/10	ND	9.1	ND	0.91
3/1/11	ND	0.49	ND	0.49
9/1/11	ND	0.49	ND	0.49
3/1/12	ND	0.49	ND	0.49
Hexachlorobutadiene				
3/25/08	ND	0.75	ND	0.75
9/3/08	ND	3.7	ND	0.74
3/3/09	ND	0.74	ND	0.75
9/1/09	ND	1.8	ND	0.92
3/1/10	ND	4.6	ND	0.92
9/1/10	ND	9.2	ND	0.92
3/1/11	ND	0.72	ND	0.72
9/1/11	ND	0.72	ND	0.72
3/1/12	ND	0.72	ND	0.72

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Hexachlorocyclopentadiene				
3/25/08	ND	3.4	ND	3.4
9/3/08	ND	17	ND	3.3
3/3/09	ND	3.3	ND	3.4
9/1/09	ND	1.8	ND	0.9
3/1/10	ND	4.5	ND	0.9
9/1/10	ND	9	ND	0.9
3/1/11	ND	0.78	ND	0.78
9/1/11	ND	0.78	ND	0.78
3/1/12	ND	0.78	ND	0.78
Hexachloroethane				
3/25/08	ND	0.48	ND	0.48
9/3/08	ND	2.4	ND	0.48
3/3/09	ND	0.48	ND	0.48
9/1/09	ND	1.9	ND	0.94
3/1/10	ND	4.7	ND	0.94
9/1/10	ND	9.4	ND	0.94
3/1/11	ND	0.78	ND	0.78
9/1/11	ND	0.78	ND	0.78
3/1/12	ND	0.78	ND	0.78
Indeno(1,2,3-cd)pyrene				
3/25/08	ND	0.54	ND	0.54
9/3/08	ND	2.7	ND	0.53
3/3/09	ND	0.53	ND	0.54
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.004	0.009	0.004
9/1/11	ND	0.004	ND	0.004
3/1/12	ND	0.01	ND	0.01

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Isophorone				
3/25/08	ND	0.71	ND	0.71
9/3/08	ND	3.5	ND	0.7
3/3/09	ND	0.7	ND	0.71
9/1/09	ND	1.9	ND	0.93
3/1/10	ND	4.6	ND	0.93
9/1/10	ND	9.3	ND	0.93
3/1/11	ND	0.78	ND	0.78
9/1/11	ND	0.78	ND	0.78
3/1/12	ND	0.78	ND	0.78
Naphthalene (No criteria)				
3/25/08	ND	0.47	ND	0.47
9/3/08	ND	2.3	ND	0.47
3/3/09	5.7	0.47	ND	0.47
9/1/09	ND	0.06	0.06	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.012	ND	0.012
9/1/11	ND	0.012	ND	0.012
3/1/12	ND	0.013	ND	0.013
Nitrobenzene				
3/25/08	ND	0.45	ND	0.45
9/3/08	ND	2.2	ND	0.45
3/3/09	ND	0.45	ND	0.45
9/1/09	ND	1.9	ND	0.95
3/1/10	ND	4.8	ND	0.95
9/1/10	ND	9.5	ND	0.95
3/1/11	ND	1	ND	1
9/1/11	ND	1	ND	1
3/1/12	ND	1	ND	1

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
N-Nitrosodimethylamine				
3/25/08	ND	0.69	ND	0.69
9/3/08	ND	3.4	ND	0.69
3/3/09	ND	0.69	ND	0.69
9/1/09	ND	1.8	ND	0.88
3/1/10	ND	4.4	ND	0.88
9/1/10	ND	8.8	ND	0.88
3/1/11	ND	0.55	ND	0.55
9/1/11	ND	0.55	ND	0.55
3/1/12	ND	0.55	ND	0.55
n-Nitroso-di-n-propylamine				
3/25/08	ND	0.59	ND	0.59
9/3/08	ND	2.9	ND	0.58
3/3/09	ND	0.58	ND	0.59
9/1/09	ND	1.9	ND	0.97
3/1/10	ND	4.8	ND	0.97
9/1/10	ND	9.7	ND	0.97
3/1/11	ND	0.79	ND	0.79
9/1/11	ND	0.79	ND	0.79
3/1/12	ND	0.79	ND	0.79
n-Nitrosodiphenylamine				
3/25/08	ND	0.92	ND	0.92
9/3/08	ND	4.5	ND	0.91
3/3/09	ND	0.91	ND	0.92
9/1/09	ND	1.7	ND	0.83
3/1/10	ND	4.2	ND	0.83
9/1/10	ND	8.3	ND	0.83
3/1/11	ND	0.61	ND	0.61
9/1/11	ND	0.61	ND	0.61
3/1/12	ND	0.61	ND	0.61

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Pentachlorophenol				
3/25/08	ND	1.9	ND	1.9
9/3/08	ND	9.4	ND	1.9
3/3/09	ND	1.9	ND	1.9
9/1/09	ND	1.6	ND	0.81
3/1/10	ND	4	ND	0.81
9/1/10	ND	8.1	ND	0.81
3/1/11	ND	0.5	ND	0.5
9/1/11	ND	0.5	ND	0.5
3/1/12	ND	0.5	ND	0.5
Phenanthrene				
3/25/08	ND	0.62	ND	0.62
9/3/08	ND	3.1	ND	0.61
3/3/09	ND	0.61	ND	0.62
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.035	ND	0.035
9/1/11	ND	0.035	ND	0.035
3/1/12	ND	0.032	ND	0.032
Phenol (21000 µg/L WQC limit)				
3/25/08	11	0.76	ND	0.76
9/3/08	6.1	3.8	ND	0.75
3/3/09	15	0.75	ND	0.76
9/1/09	ND	1.4	ND	0.69
3/1/10	8.2	3.4	ND	0.69
9/1/10	11	6.9	ND	0.69
3/1/11	7.23	0.43	ND	0.43
9/1/11	6.67	0.43	ND	0.43
3/1/12	9.47	0.43	ND	0.43

Table C-2: Influent and Effluent Data for Semi-Volatile Organics Analytical Method 625

Semi-Volatile Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Pyrene				
3/25/08	ND	0.67	ND	0.67
9/3/08	ND	3.3	ND	0.67
3/3/09	ND	0.67	ND	0.67
9/1/09	ND	0.06	ND	0.03
3/1/10	ND	0.15	ND	0.03
9/1/10	ND	0.3	ND	0.03
3/1/11	ND	0.016	ND	0.016
9/1/11	ND	0.016	ND	0.016
3/1/12	ND	0.016	ND	0.016

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
4,4'-DDD				
3/25/08			ND	0.0037
9/3/08			ND	0.00418
3/3/09			ND	0.00431
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0017
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.005	ND	0.005
3/1/12	ND	0.026	ND	0.005
4,4'-DDE				
3/25/08			ND	0.0037
9/3/08			ND	0.00415
3/3/09			ND	0.00427
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.006	ND	0.004
9/1/10	ND	0.006	ND	0.003
2/9/11			ND	0.0021
3/1/11	ND	0.004	ND	0.004
4/4/11			ND	0.004
9/1/11	ND	0.0042	ND	0.0042
3/1/12	ND	0.0022	ND	0.0042
4,4'-DDT				
3/25/08			ND	0.0049
9/3/08			ND	0.00541
3/3/09			ND	0.00557
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0027
3/1/11	ND	0.01	ND	0.01
4/4/11			ND	0.01
9/1/11	ND	0.0096	ND	0.0096
3/1/12	ND	0.05	ND	0.0096

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Aldrin				
3/25/08			ND	0.0041
9/3/08			ND	0.00396
3/3/09			ND	0.00408
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0038
3/1/11	ND	0.004	ND	0.004
4/4/11			ND	0.004
9/1/11	ND	0.0039	ND	0.0039
3/1/12	ND	0.02	ND	0.0039
alpha-BHC				
3/25/08			ND	0.0041
9/3/08			ND	0.00396
3/3/09			ND	0.00408
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.01	ND	0.005
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0071
3/1/11	ND	0.006	ND	0.006
4/4/11			ND	0.006
9/1/11	ND	0.0055	ND	0.0055
3/1/12	ND	0.029	ND	0.0055
alpha-Chlordane				
2/9/11			ND	0.0029
3/1/11	ND	0.002	ND	0.002
4/4/11			ND	0.002
9/1/11	ND	0.0023	ND	0.0023
3/1/12	ND	0.012	ND	0.0023

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
beta-BHC				
3/25/08			ND	0.0045
9/3/08			ND	0.00448
3/3/09			ND	0.00461
9/1/09	ND	0.006	ND	0.003
3/1/10	ND	0.008	ND	0.003
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.006
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.0047	ND	0.0047
3/1/12	ND	0.0024	ND	0.0047
Chlordane				
3/25/08			ND	0.014
9/3/08			ND	0.014
3/3/09			ND	0.0144
9/1/09	ND	0.08	ND	0.04
3/1/10	ND	0.01	ND	0.04
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.003
3/1/11	ND	0.002	ND	0.002
4/4/11			ND	0.002
9/1/11	ND	0.028	ND	0.028
3/1/12	ND	0.01	ND	0.028

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
delta-BHC				
3/25/08			ND	0.004
9/3/08			ND	0.00397
3/3/09			ND	0.00409
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0026
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.0048	ND	0.0048
3/1/12	ND	0.005	ND	0.0048
Dieldrin				
3/25/08			ND	0.0033
9/3/08			ND	0.0037
3/3/09			ND	0.00381
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0017
3/1/11	ND	0.006	ND	0.006
4/4/11			ND	0.006
9/1/11	ND	0.0062	ND	0.0062
3/1/12	ND	0.032	ND	0.0062
Endosulfan sulfate				
3/25/08			ND	0.0041
9/3/08			ND	0.0036
3/3/09			ND	0.00371
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.01	ND	0.005
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0027
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.005	ND	0.005
3/1/12	ND	0.026	ND	0.005

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Endosulfan-I (alpha)				
3/25/08			ND	0.0034
9/3/08			ND	0.00357
3/3/09			ND	0.00368
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.008	ND	0.005
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0015
3/1/11	ND	0.003	ND	0.003
4/4/11			ND	0.003
9/1/11	ND	0.0028	ND	0.0028
3/1/12	ND	0.015	ND	0.0028
Endosulfan-II (beta)				
3/25/08			ND	0.0038
9/3/08			ND	0.00368
3/3/09			ND	0.00379
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.01	ND	0.005
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0048
3/1/11	ND	0.004	ND	0.004
4/4/11			ND	0.004
9/1/11	ND	0.0042	ND	0.0042
3/1/12	ND	0.022	ND	0.0042

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Endrin				
3/25/08			ND	0.0032
9/3/08			ND	0.00317
3/3/09			ND	0.00327
9/1/09	ND	0.006	ND	0.003
3/1/10	ND	0.01	ND	0.003
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0021
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.005	ND	0.005
9/1/11	ND	0.026	ND	0.005
Endrin aldehyde				
3/25/08			ND	0.0042
9/3/08			ND	0.00304
3/3/09			ND	0.00313
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.01	ND	0.005
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0048
3/1/11	ND	0.002	ND	0.002
4/4/11			ND	0.002
9/1/11	ND	0.0025	ND	0.0025
3/1/12	ND	0.013	ND	0.0025
Endrin ketone				
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.01	ND	0.004
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0063
3/1/11	ND	0.01	ND	0.01
4/4/11			ND	0.01
9/1/11	ND	0.0101	ND	0.0101
3/1/12	ND	0.05025	ND	0.0101

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
gamma-BHC (Lindane)				
3/25/08			ND	0.0038
9/3/08			ND	0.00394
3/3/09			ND	0.00406
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0043
3/1/11	ND	0.005	ND	0.005
4/4/11			ND	0.005
9/1/11	ND	0.005	ND	0.005
3/1/12	ND	0.0065	ND	0.005
gamma-Chlordane				
2/9/11			ND	0.0029
3/1/11	ND	0.003	ND	0.003
4/4/11			ND	0.003
9/1/11	ND	0.0034	ND	0.0034
3/1/12	ND	0.0069	ND	0.0034
Heptachlor				
3/25/08			ND	0.0036
9/3/08			ND	0.00406
3/3/09			ND	0.00418
6/1/09			ND	0.004
9/1/09	ND	0.008	ND	0.004
12/2/09			ND	0.004
3/1/10	ND	0.01	ND	0.004
6/2/10			ND	0.005
9/1/10	ND	0.01	ND	0.005
10/5/10			ND	0.005
2/9/11			ND	0.0071
3/1/11	ND	0.004	ND	0.004
4/4/11			ND	0.004
6/1/11			ND	0.0039
9/1/11	ND	0.0039	ND	0.0039
12/5/11			ND	0.0039
3/1/12	ND	0.02	ND	0.0039

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Heptachlor epoxide				
3/25/08			ND	0.003
9/3/08			ND	0.00332
3/3/09			ND	0.00342
9/1/09	ND	0.008	ND	0.004
3/1/10	ND	0.008	ND	0.004
9/1/10	ND	0.008	ND	0.004
2/9/11			ND	0.0019
3/1/11	ND	0.003	ND	0.003
4/4/11			ND	0.003
9/1/11	ND	0.0028	ND	0.0028
3/1/12	ND	0.015	ND	0.0028
Methoxychlor				
9/1/09	ND	0.01	ND	0.005
3/1/10	ND	0.01	ND	0.005
9/1/10	ND	0.01	ND	0.005
2/9/11			ND	0.0023
3/1/11	ND	0.01	ND	0.01
4/4/11			ND	0.01
9/1/11	ND	0.0104	ND	0.0104
3/1/12	ND	0.0541	ND	0.0104
PCB-1016				
3/25/08			ND	0.02
9/3/08			ND	0.02
3/3/09			ND	0.0206
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
PCB-1221				
3/25/08			ND	0.14
9/3/08			ND	0.14
3/3/09			ND	0.144
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028
PCB-1232				
3/25/08			ND	0.06
9/3/08			ND	0.06
3/3/09			ND	0.0618
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
PCB-1242				
3/25/08			ND	0.02
9/3/08			ND	0.02
3/3/09			ND	0.0206
9/1/09	ND	0.08	ND	0.04
3/1/10	ND	0.08	ND	0.04
9/1/10	ND	0.08	ND	0.04
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028
PCB-1248				
3/25/08			ND	0.1
9/3/08			ND	0.1
3/3/09			ND	0.103
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
PCB-1254				
3/25/08			ND	0.08
9/3/08			ND	0.08
3/3/09			ND	0.0824
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.068
3/1/11	ND	0.028	ND	0.028
4/4/11			ND	0.028
6/1/11			ND	0.028
9/1/11	ND	0.028	ND	0.028
12/5/11			ND	0.028
3/1/12	ND	0.015	ND	0.028
PCB-1260				
3/25/08			ND	0.09
9/3/08			ND	0.09
3/3/09			ND	0.0927
9/1/09	ND	0.1	ND	0.05
3/1/10	ND	0.1	ND	0.05
9/1/10	ND	0.1	ND	0.05
2/9/11			ND	0.048
3/1/11	ND	0.091	ND	0.091
4/4/11			ND	0.091
6/1/11			ND	0.091
9/1/11	ND	0.091	ND	0.091
12/5/11			ND	0.091
3/1/12	ND	0.47	ND	0.091

Table C-3: Influent and Effluent Data for Polychlorinated biphenyls (PCBs) Analytical Method 608

PCB Organic/ Sample Collection Date	Influent (µg/L)	Influent Minimum Detection Limit (µg/L)	Effluent (µg/L)	Effluent Minimum Detection Limit (µg/L)
Toxaphene				
3/25/08			ND	0.072
9/3/08			ND	0.072
3/3/09			ND	0.0742
9/1/09	ND	0.4	ND	0.2
3/1/10	ND	0.4	ND	0.2
9/1/10	ND	0.4	ND	0.2
2/9/11			ND	0.03
3/1/11	ND	0.03	ND	0.03
4/4/11			ND	0.03
9/1/11	ND	0.028	ND	0.028
3/1/12	ND	0.016	ND	0.028

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
1,2,3,4,6,7,8-HpCDD				
3/4/08			ND	0.231
3/25/08	45.2	1.19	ND	0.231
9/3/08	21.9	2.01	ND	0.321
9/19/08			ND	0.321
3/3/09	32.4	2.01	ND	0.321
9/1/09	15.5	0.985	ND	0.985
3/1/10	19.9	0.495	ND	0.495
9/1/10	22.7	0.495	ND	0.495
3/1/11			ND	0.495
9/1/11			ND	0.497
3/1/12			ND	0.497
1,2,3,4,6,7,8-HpCDF				
3/4/08			ND	0.333
3/25/08	6.71	0.6	ND	0.333
9/3/08	4.6	1.7	ND	0.205
9/19/08			ND	0.205
3/3/09	6.11	1.7	ND	0.205
9/1/09	3.54	0.497	ND	0.497
3/1/10	6.06	0.251	ND	0.251
9/1/10	3.22	0.251	ND	0.251
3/1/11			ND	0.251
9/1/11			ND	0.324
3/1/12			ND	0.324
1,2,3,4,7,8,9-HpCDF				
3/4/08			ND	0.206
3/25/08	ND	0.56	ND	0.206
9/3/08	ND	0.96	ND	0.205
9/19/08			ND	0.205
3/3/09	ND	0.96	ND	0.205
9/1/09	ND	0.587	ND	0.587
3/1/10	ND	0.28	ND	0.28
9/1/10	ND	0.28	ND	0.28
3/1/11			ND	0.28
9/1/11			ND	0.49
3/1/12			ND	0.49

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
1,2,3,4,7,8-HxCDD				
3/4/08			ND	0.128
3/25/08	ND	1.02	ND	0.128
9/3/08	ND	1.18	ND	0.335
9/19/08			ND	0.335
3/3/09	ND	1.18	ND	0.335
9/1/09	ND	0.483	ND	0.483
3/1/10	ND	0.328	ND	0.328
9/1/10	ND	0.328	ND	0.328
3/1/11			ND	0.328
9/1/11			ND	0.326
3/1/12			ND	0.326
1,2,3,4,7,8-HxCDF				
3/4/08			ND	0.236
3/25/08	ND	0.66	ND	0.236
9/3/08	ND	1.06	ND	0.271
9/19/08			ND	0.271
3/3/09	ND	1.06	ND	0.271
9/1/09	ND	0.317	ND	0.317
3/1/10	ND	0.162	ND	0.162
9/1/10	ND	0.162	ND	0.162
3/1/11			ND	0.162
9/1/11			ND	0.255
3/1/12			ND	0.255
1,2,3,6,7,8-HxCDD				
3/4/08			ND	0.106
3/25/08	ND	0.91	ND	0.106
9/3/08	ND	1.69	ND	0.335
9/19/08			ND	0.335
3/3/09	ND	1.69	ND	0.335
9/1/09	ND	0.665	ND	0.665
3/1/10	ND	0.381	ND	0.381
9/1/10	ND	0.381	ND	0.381
3/1/11			ND	0.381
9/1/11			ND	0.424
3/1/12			ND	0.424

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
1,2,3,6,7,8-HxCDF				
3/4/08			ND	0.163
3/25/08	ND	0.84	ND	0.163
9/3/08	ND	0.73	ND	0.227
9/19/08			ND	0.227
3/3/09	ND	0.73	ND	0.227
9/1/09	0.865	0.346	ND	0.346
3/1/10	ND	0.167	ND	0.167
9/1/10	ND	0.167	ND	0.167
3/1/11			ND	0.167
9/1/11			ND	0.248
3/1/12			ND	0.248
1,2,3,7,8,9-HxCDD				
3/4/08			ND	0.258
3/25/08	ND	0.87	ND	0.258
9/3/08	ND	1.18	ND	0.302
9/19/08			ND	0.302
3/3/09	ND	1.18	ND	0.302
9/1/09	ND	0.65	ND	0.65
3/1/10	ND	0.351	ND	0.351
9/1/10	ND	0.351	ND	0.351
3/1/11			ND	0.351
9/1/11			ND	0.367
3/1/12			ND	0.367
1,2,3,7,8,9-HxCDF				
3/4/08			ND	0.154
3/25/08	ND	1.3	ND	0.154
9/3/08	ND	0.94	ND	0.217
9/19/08			ND	0.217
3/3/09	ND	0.94	ND	0.217
9/1/09	ND	0.474	ND	0.474
3/1/10	ND	0.185	ND	0.185
9/1/10	ND	0.185	ND	0.185
3/1/11			ND	0.185
9/1/11			ND	0.258
3/1/12			ND	0.258

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
1,2,3,7,8-PeCDD				
3/4/08			ND	0.242
3/25/08	ND	0.86	ND	0.242
9/3/08	ND	1.59	ND	0.305
9/19/08			ND	0.305
3/3/09	ND	1.59	ND	0.305
9/1/09	ND	0.491	ND	0.491
3/1/10	ND	0.302	ND	0.302
9/1/10	ND	0.302	ND	0.302
3/1/11			ND	0.302
9/1/11			ND	0.317
3/1/12			ND	0.317
1,2,3,7,8-PeCDF				
3/4/08			ND	0.172
3/25/08	ND	0.87	ND	0.172
9/3/08	ND	1.09	ND	0.122
9/19/08			ND	0.122
3/3/09	ND	1.09	ND	0.122
9/1/09	ND	0.34	ND	0.34
3/1/10	ND	0.219	ND	0.219
9/1/10	ND	0.219	ND	0.219
3/1/11			ND	0.219
9/1/11			ND	0.235
3/1/12			ND	0.235
2,3,4,6,7,8-HxCDF				
3/4/08			ND	0.198
3/25/08	ND	0.99	ND	0.198
9/3/08	ND	1.26	ND	0.335
9/19/08			ND	0.335
3/3/09	ND	1.26	ND	0.335
9/1/09	ND	0.292	ND	0.292
3/1/10	ND	0.167	ND	0.167
9/1/10	ND	0.167	ND	0.167
3/1/11			ND	0.167
9/1/11			ND	0.262
3/1/12			ND	0.262

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
2,3,4,7,8-PeCDF				
3/4/08			ND	0.172
3/25/08	ND	0.71	ND	0.172
9/3/08	ND	1.48	ND	0.209
9/19/08			ND	0.209
3/3/09	ND	1.48	ND	0.209
9/1/09	ND	0.441	ND	0.441
3/1/10	ND	0.232	ND	0.232
9/1/10	ND	0.232	ND	0.232
3/1/11			ND	0.232
9/1/11			ND	0.243
3/1/12			ND	0.243
2,3,7,8-TCDD				
3/4/08			ND	0.192
3/25/08	ND	0.56	ND	0.192
9/3/08	ND	0.84	ND	0.1
9/19/08			ND	0.1
3/3/09	ND	0.84	ND	0.1
9/1/09	ND	0.32	ND	0.32
3/1/10	ND	0.212	ND	0.212
9/1/10	ND	0.212	ND	0.212
3/1/11			ND	0.212
9/1/11			ND	0.215
3/1/12			ND	0.215
2,3,7,8-TCDF				
3/4/08			ND	0.135
3/25/08	ND	0.47	ND	0.135
9/3/08	ND	0.97	ND	0.219
9/19/08			ND	0.219
3/3/09	ND	0.97	ND	0.219
9/1/09	ND	0.305	ND	0.305
3/1/10	ND	0.112	ND	0.112
9/1/10	ND	0.112	ND	0.112
3/1/11			ND	0.112
9/1/11			ND	0.209
3/1/12			ND	0.209

Table C-4: Influent and Effluent Data for Dioxins Analytical Method 1613

Dioxin/ Sample Collection Date	Influent (pg/L)	Influent Minimum Detection Limit (pg/L)	Effluent (pg/L)	Effluent Minimum Detection Limit (pg/L)
OCDD				
3/4/08			ND	1.86
3/25/08	457	1.87	2.1	1.86
9/3/08	165	2.45	22.1	0.559
9/19/08			3.88	0.559
3/3/09	359	2.45	3.44	0.559
9/1/09	171	1.93	ND	1.93
3/1/10	235	1.02	ND	1.02
9/1/10	179	1.02	ND	1.02
3/1/11			ND	1.02
9/1/11			ND	1.41
3/1/12			ND	1.41
OCDF				
3/4/08			ND	0.405
3/25/08	21.7	4.2	ND	0.405
9/3/08	12	3.66	ND	0.634
9/19/08			ND	0.634
3/3/09	18.7	3.66	ND	0.634
9/1/09	20.1	1.32	ND	1.32
3/1/10	21.5	0.451	ND	0.451
9/1/10	10	0.451	ND	0.451
3/1/11			ND	0.451
9/1/11			ND	0.805
3/1/12			ND	0.805

Table C-5: Effluent Data for Tributyltin Analytical Method 6710B

Collection Date	Tributyltin Effluent (µg/L)	Tributlytin Effluent Minimum Detection Limit
1/3/08	ND	0.0035
2/4/08	ND	0.0035
3/25/08	ND	0.0035
4/3/08	ND	0.0035
5/5/08	ND	0.0035
6/3/08	ND	0.0035
7/2/08	ND	0.0035
8/5/08	ND	0.0035
9/3/08	ND	0.0035
10/7/08	ND	0.0035
11/4/08	ND	0.0035
12/3/08	ND	0.0035
1/6/09	ND	0.0035
2/4/09	ND	0.0035
3/3/09	ND	0.0035
4/7/09	ND	0.0026
5/4/09	ND	0.0026
6/1/09	ND	0.0026
7/8/09	ND	0.0026
8/5/09	ND	0.0026
9/1/09	ND	0.0026
10/5/09	ND	0.0026
11/5/09	ND	0.0026
12/2/09	ND	0.0026
1/5/10	ND	0.0026
2/3/10	ND	0.0026
3/1/10	ND	0.0026
4/5/10	ND	0.0026
5/6/10	ND	0.0026
6/2/10	ND	0.0026
7/8/10	ND	0.0026
8/2/10	ND	0.0026
9/1/10	ND	0.0026
10/5/10	ND	0.0026
1/6/11	ND	0.0026
4/4/11	ND	0.0026
7/6/11	ND	0.0026
10/3/11	ND	0.0026
1/4/12	ND	0.0026
4/5/12	ND	0.0026

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
1/1/08	1
1/1/08	1.3
1/2/08	1
1/3/08	1
1/4/08	0.8
1/5/08	1.8
1/6/08	1.4
1/7/08	1.4
1/8/08	1.8
1/8/08	1.8
1/9/08	1.8
1/10/08	1.8
1/11/08	1.6
1/12/08	1.6
1/13/08	1.4
1/14/08	1.6
1/15/08	1.1
1/15/08	1
1/16/08	1.1
1/17/08	1.1
1/18/08	1.2
1/19/08	1.5
1/20/08	1.5
1/21/08	1.6
1/22/08	1.5
1/22/08	1.5
1/23/08	1.4
1/24/08	1.4
1/25/08	1.2
1/26/08	1.1
1/27/08	1.3
1/28/08	1.5
1/29/08	1.4
1/29/08	1
1/30/08	0.9
1/31/08	1
2/1/08	1.2
2/2/08	1.5
2/3/08	1.4
2/4/08	1.7
2/5/08	1.5
2/5/08	1.4
2/6/08	1.5
2/7/08	1.4
2/8/08	1.4
2/9/08	1.3
2/10/08	2.4

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
2/11/08	1.5
2/12/08	1.4
2/12/08	1.1
2/13/08	1.1
2/14/08	1.2
2/15/08	1.1
2/16/08	1.1
2/17/08	1.6
2/18/08	1.6
2/19/08	1.3
2/19/08	1
2/20/08	1.3
2/21/08	1.3
2/22/08	1.5
2/23/08	1.5
2/24/08	1.5
2/25/08	0.9
2/26/08	1.1
2/26/08	1.1
2/27/08	1
2/28/08	1.1
2/29/08	1.1
3/1/08	0.8
3/2/08	0.9
3/3/08	1
3/4/08	0.8
3/4/08	1
3/5/08	1.3
3/6/08	1.2
3/7/08	1.1
3/8/08	0.8
3/9/08	0.8
3/10/08	1.3
3/11/08	1
3/11/08	1
3/12/08	1.2
3/13/08	0.9
3/14/08	0.8
3/15/08	0.8
3/16/08	1
3/17/08	1
3/18/08	1.1
3/18/08	1
3/19/08	0.9
3/20/08	0.7
3/21/08	1.2
3/22/08	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
3/23/08	1.1
3/24/08	1.2
3/25/08	0.8
3/25/08	1.1
3/26/08	1.2
3/27/08	1.6
3/28/08	1.5
3/29/08	1
3/30/08	1.1
3/31/08	1.3
4/1/08	1.6
4/1/08	1.8
4/2/08	1.7
4/3/08	1
4/4/08	1.5
4/5/08	1.2
4/6/08	1
4/7/08	1.4
4/8/08	1
4/8/08	1.2
4/9/08	1.1
4/10/08	1.4
4/11/08	0.9
4/12/08	1.1
4/13/08	1.2
4/14/08	1.7
4/15/08	2.1
4/15/08	1.2
4/16/08	1.7
4/17/08	1.2
4/18/08	1.2
4/19/08	1.2
4/20/08	1
4/21/08	1.2
4/22/08	1.3
4/22/08	1
4/23/08	0.8
4/24/08	1.2
4/25/08	1.2
4/26/08	1.1
4/27/08	1.6
4/28/08	1.1
4/29/08	1.3
4/29/08	1.1
4/30/08	1
5/1/08	0.9
5/2/08	1.5

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
5/3/08	1.5
5/4/08	1.2
5/5/08	1.2
5/6/08	1.4
5/6/08	1.2
5/7/08	1.2
5/8/08	1.2
5/9/08	1
5/10/08	0.9
5/11/08	1
5/12/08	1.1
5/13/08	0.9
5/13/08	1.3
5/14/08	1.3
5/15/08	1.6
5/16/08	1.4
5/17/08	1.5
5/18/08	1.1
5/19/08	1.3
5/20/08	1.4
5/20/08	1
5/21/08	0.8
5/22/08	1.6
5/23/08	1
5/24/08	0.8
5/25/08	1
5/26/08	1
5/27/08	2.6
5/27/08	1.3
5/28/08	1
5/29/08	1.7
5/30/08	1.6
5/31/08	1.1
6/1/08	1.1
6/2/08	1.3
6/3/08	1.8
6/3/08	1.1
6/4/08	1.3
6/5/08	1.6
6/6/08	1.3
6/7/08	0.8
6/8/08	1.2
6/9/08	1.5
6/10/08	0.8
6/10/08	1.2
6/11/08	1.4
6/12/08	1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
6/13/08	1.3
6/14/08	1.4
6/15/08	1.2
6/16/08	1
6/17/08	1
6/17/08	1.1
6/18/08	1.7
6/19/08	1.2
6/20/08	1.2
6/21/08	1.1
6/22/08	1.1
6/23/08	1
6/24/08	0.9
6/24/08	1.2
6/25/08	1
6/26/08	1
6/27/08	1
6/28/08	1.2
6/29/08	0.9
6/30/08	1.2
7/1/08	1.4
7/1/08	1.2
7/2/08	1.3
7/3/08	1
7/4/08	0.5
7/5/08	0.8
7/6/08	1
7/7/08	0.7
7/8/08	0.8
7/8/08	1.1
7/9/08	0.8
7/10/08	1.2
7/11/08	1
7/12/08	1.1
7/13/08	1.2
7/14/08	1.3
7/15/08	0.9
7/15/08	1
7/16/08	0.8
7/17/08	1.3
7/18/08	1.3
7/19/08	0.9
7/20/08	1
7/21/08	1.2
7/22/08	0.8
7/22/08	1.4
7/23/08	0.8

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
7/24/08	0.7
7/25/08	0.8
7/26/08	1.2
7/27/08	1.1
7/28/08	1.2
7/29/08	1.7
7/29/08	1.3
7/30/08	1
7/31/08	1.1
8/1/08	0.8
8/2/08	1
8/3/08	0.8
8/4/08	0.8
8/5/08	0.8
8/5/08	1
8/6/08	0.8
8/7/08	0.7
8/8/08	1
8/9/08	0.9
8/10/08	0.8
8/11/08	1.2
8/12/08	0.7
8/12/08	0.9
8/13/08	0.7
8/14/08	1
8/15/08	0.8
8/16/08	1.1
8/17/08	0.7
8/18/08	0.6
8/19/08	1.1
8/19/08	1
8/20/08	0.7
8/21/08	1
8/22/08	0.8
8/23/08	0.9
8/24/08	0.9
8/25/08	1.3
8/26/08	1.2
8/26/08	0.8
8/27/08	1
8/28/08	1.4
8/29/08	0.9
8/30/08	1.2
8/31/08	1.1
9/1/08	0.9
9/2/08	0.8
9/2/08	0.8

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
9/3/08	0.8
9/4/08	0.7
9/5/08	0.7
9/6/08	0.8
9/7/08	1
9/8/08	1
9/9/08	1.1
9/9/08	1.1
9/10/08	1.2
9/11/08	1
9/12/08	0.8
9/13/08	1.1
9/14/08	0.9
9/15/08	0.8
9/16/08	1
9/16/08	0.7
9/17/08	0.8
9/18/08	0.9
9/19/08	1
9/20/08	0.8
9/21/08	1
9/22/08	2.2
9/23/08	1.1
9/23/08	0.9
9/24/08	2.3
9/25/08	1.3
9/26/08	1.5
9/27/08	1.1
9/28/08	1
9/29/08	1.2
9/30/08	0.8
9/30/08	1
10/1/08	1.3
10/2/08	1.1
10/3/08	0.7
10/4/08	1
10/5/08	0.9
10/6/08	0.9
10/7/08	1.3
10/7/08	1.2
10/8/08	1.1
10/9/08	1.1
10/10/08	0.9
10/11/08	1.1
10/12/08	0.8
10/13/08	0.8
10/14/08	1.2

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
10/14/08	0.9
10/15/08	1.4
10/16/08	1.1
10/17/08	0.6
10/18/08	0.8
10/19/08	0.8
10/20/08	1.3
10/21/08	1
10/21/08	1
10/22/08	1.1
10/23/08	1.3
10/24/08	1.3
10/25/08	1
10/26/08	0.8
10/27/08	0.9
10/28/08	0.8
10/28/08	1.3
10/29/08	0.8
10/30/08	1.8
10/31/08	0.8
11/1/08	1.2
11/2/08	1.4
11/3/08	1.2
11/4/08	1.1
11/4/08	1.2
11/5/08	1.5
11/6/08	1.3
11/7/08	1.5
11/8/08	1.5
11/9/08	1.5
11/10/08	1.6
11/11/08	1.4
11/11/08	1.1
11/12/08	1.2
11/13/08	1.3
11/14/08	1.6
11/15/08	1.5
11/16/08	1.3
11/17/08	1.4
11/18/08	0.9
11/18/08	1.8
11/19/08	1.2
11/20/08	1.4
11/21/08	1.7
11/22/08	1.4
11/23/08	1.2
11/24/08	1.5

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
11/25/08	1.4
11/25/08	1.6
11/26/08	1.6
11/27/08	1.4
11/28/08	1.5
11/29/08	1.2
11/30/08	1.2
12/1/08	1.8
12/2/08	1.3
12/2/08	1.3
12/3/08	1.2
12/4/08	1.1
12/5/08	0.9
12/6/08	0.9
12/7/08	0.9
12/8/08	1.3
12/9/08	1.7
12/9/08	1.6
12/10/08	1.5
12/11/08	1.2
12/12/08	1.9
12/13/08	1.3
12/14/08	1.6
12/15/08	1.6
12/16/08	1.8
12/16/08	1.7
12/17/08	1.4
12/18/08	0.9
12/19/08	0.9
12/20/08	1.1
12/21/08	0.9
12/22/08	1.7
12/23/08	1.3
12/23/08	1.6
12/24/08	1.5
12/25/08	1.6
12/26/08	1.3
12/27/08	1.6
12/28/08	1.3
12/29/08	1
12/30/08	1.4
12/30/08	0.9
1/1/09	1.3
1/2/09	0.9
1/3/09	0.9
1/4/09	1.1
1/5/09	0.9

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
1/6/09	0.9
1/6/09	1.3
1/7/09	1.2
1/8/09	1.5
1/9/09	1.3
1/10/09	1.5
1/11/09	1.9
1/12/09	2.6
1/13/09	2
1/13/09	1.8
1/14/09	1.3
1/15/09	1.2
1/16/09	1.1
1/17/09	1.2
1/18/09	1.2
1/19/09	1.4
1/20/09	1.4
1/20/09	1.4
1/21/09	1.4
1/22/09	1.3
1/23/09	1.1
1/24/09	1.2
1/25/09	1.4
1/26/09	1.4
1/27/09	1.1
1/27/09	1.4
1/28/09	1.7
1/29/09	1.6
1/30/09	1.3
1/31/09	1.5
2/1/09	1.3
2/2/09	1.6
2/3/09	1.2
2/3/09	1.6
2/4/09	1.3
2/5/09	0.9
2/6/09	1.2
2/7/09	1.8
2/8/09	1.4
2/9/09	1.5
2/10/09	1.8
2/10/09	1.7
2/11/09	1.8
2/12/09	1.8
2/13/09	1.5
2/14/09	1.7
2/15/09	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
2/16/09	1.4
2/17/09	1.8
2/17/09	2.3
2/18/09	1.8
2/19/09	2.3
2/20/09	3
2/21/09	1.9
2/22/09	1.6
2/23/09	1.6
2/24/09	1.5
2/24/09	2
2/25/09	1.5
2/26/09	2.6
2/27/09	1.7
2/28/09	1.6
3/1/09	1.2
3/2/09	1.3
3/3/09	1.2
3/3/09	1.8
3/4/09	2.2
3/5/09	2
3/6/09	1.1
3/7/09	1.4
3/8/09	1.4
3/9/09	1.6
3/10/09	1.7
3/10/09	1.1
3/11/09	1.2
3/12/09	1.6
3/13/09	1.4
3/14/09	1.3
3/15/09	1.4
3/16/09	1.4
3/17/09	1.5
3/17/09	2
3/18/09	1.2
3/19/09	1.8
3/20/09	1.4
3/21/09	2.2
3/22/09	1.6
3/23/09	1.5
3/24/09	1.9
3/24/09	1.2
3/25/09	1.6
3/26/09	1.8
3/27/09	1.3
3/28/09	1.8

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
3/29/09	1.7
3/30/09	1.3
3/31/09	1.6
3/31/09	1.7
4/1/09	1.2
4/2/09	1
4/3/09	1.7
4/4/09	2.4
4/5/09	2.8
4/6/09	1.2
4/7/09	1.7
4/7/09	1.6
4/8/09	1.2
4/9/09	1.6
4/10/09	3.1
4/11/09	1.4
4/12/09	2.3
4/13/09	1.9
4/14/09	3.1
4/14/09	1.9
4/15/09	1.5
4/16/09	2.5
4/17/09	3.5
4/18/09	1.5
4/19/09	2.4
4/20/09	2.2
4/21/09	2.3
4/21/09	1.9
4/22/09	1.8
4/23/09	2.5
4/24/09	1.8
4/25/09	1.6
4/26/09	N.A.
4/27/09	2.8
4/28/09	1.5
4/28/09	1.3
4/29/09	1.3
4/30/09	1.2
5/1/09	1.5
5/2/09	1.6
5/3/09	2
5/4/09	2.3
5/5/09	1.3
5/5/09	1.7
5/6/09	1.7
5/7/09	2.4
5/8/09	1.9

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
5/9/09	1.5
5/10/09	1.3
5/11/09	1.1
5/12/09	1.1
5/12/09	1.1
5/13/09	1.2
5/14/09	1.5
5/15/09	1.2
5/16/09	1.1
5/17/09	1.5
5/18/09	2.5
5/19/09	1.2
5/19/09	0.9
5/20/09	3.6
5/21/09	1.7
5/22/09	1.4
5/23/09	1.3
5/24/09	2.2
5/25/09	1.4
5/26/09	1.1
5/26/09	1.5
5/27/09	0.8
5/28/09	1.7
5/29/09	0.9
5/30/09	0.9
5/31/09	1.2
6/1/09	1
6/2/09	1.8
6/2/09	1.2
6/3/09	1.1
6/4/09	1.2
6/5/09	1.4
6/6/09	2.1
6/7/09	1.2
6/8/09	1.1
6/9/09	1.3
6/9/09	1.1
6/10/09	0.8
6/11/09	0.9
6/12/09	1.4
6/13/09	1.4
6/14/09	1.4
6/15/09	1.1
6/16/09	1.5
6/16/09	1.2
6/17/09	1.4
6/18/09	0.9

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
6/19/09	1.3
6/20/09	1.8
6/21/09	2.3
6/22/09	1.9
6/23/09	1.6
6/23/09	1.6
6/24/09	1.4
6/25/09	1.4
6/26/09	1.3
6/27/09	1.3
6/28/09	1.3
6/29/09	1.3
6/30/09	1.3
6/30/09	1.3
7/1/09	1.3
7/2/09	1.5
7/3/09	0.9
7/4/09	1.2
7/5/09	1.5
7/6/09	1.3
7/7/09	1.7
7/7/09	1.4
7/8/09	1.1
7/9/09	1.1
7/10/09	1.1
7/11/09	1.2
7/12/09	1.3
7/13/09	1.4
7/14/09	1.1
7/14/09	1.4
7/15/09	1.3
7/16/09	1.4
7/17/09	1.5
7/18/09	1.7
7/19/09	1.2
7/20/09	1.5
7/21/09	2.9
7/21/09	1.6
7/22/09	0.7
7/23/09	1.7
7/24/09	1.5
7/25/09	1.2
7/26/09	1.2
7/27/09	1.1
7/28/09	1.7
7/28/09	1.4
7/29/09	2.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
7/30/09	1.4
7/31/09	1.4
8/1/09	1.6
8/2/09	1.2
8/3/09	1.8
8/4/09	1.2
8/4/09	1.2
8/5/09	1.3
8/6/09	1.6
8/7/09	1.8
8/8/09	1.8
8/9/09	1.2
8/10/09	1.4
8/11/09	1.2
8/11/09	1.3
8/12/09	1.2
8/13/09	1
8/14/09	1.3
8/15/09	1.3
8/16/09	0.7
8/17/09	1.7
8/18/09	1.5
8/18/09	1.3
8/19/09	1.5
8/20/09	1.3
8/21/09	1.3
8/22/09	1
8/23/09	1
8/24/09	1.4
8/25/09	1.4
8/25/09	1.4
8/26/09	1.3
8/27/09	1.5
8/28/09	1.3
8/29/09	1.5
8/30/09	1.6
8/31/09	1.2
9/1/09	1.6
9/1/09	1.9
9/2/09	2
9/3/09	1.2
9/4/09	1.9
9/5/09	2.4
9/6/09	2.4
9/7/09	2.4
9/8/09	2
9/8/09	1.6

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
9/9/09	1.4
9/10/09	1.5
9/11/09	1.6
9/12/09	1.1
9/13/09	1.5
9/14/09	1.5
9/15/09	1.2
9/15/09	1
9/16/09	0.8
9/17/09	1.5
9/18/09	1.4
9/19/09	0.9
9/20/09	1
9/21/09	1.3
9/22/09	0.9
9/22/09	1.1
9/23/09	1.1
9/24/09	1.4
9/25/09	1.2
9/26/09	1.6
9/27/09	1.4
9/28/09	1.3
9/29/09	1.8
9/29/09	1.2
9/30/09	1.6
10/1/09	1.5
10/2/09	1.5
10/3/09	1.7
10/4/09	1.9
10/5/09	1.3
10/6/09	1.2
10/6/09	1
10/7/09	1.1
10/8/09	1.2
10/9/09	1.1
10/10/09	1
10/11/09	2.5
10/12/09	2.1
10/13/09	1.7
10/13/09	1.7
10/14/09	1.7
10/15/09	1.2
10/16/09	1.4
10/17/09	1.2
10/18/09	1.4
10/19/09	1.3
10/20/09	1.4

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
10/20/09	1.2
10/21/09	1.1
10/22/09	1.1
10/23/09	1.3
10/24/09	1.6
10/25/09	1.2
10/26/09	1.5
10/27/09	1.6
10/27/09	1.3
10/28/09	1.7
10/29/09	1.2
10/30/09	1.6
10/31/09	1.6
11/1/09	1.4
11/2/09	1.7
11/3/09	1.5
11/3/09	1.2
11/4/09	1.5
11/5/09	1.7
11/6/09	1.5
11/7/09	1.4
11/8/09	1.3
11/9/09	1.1
11/10/09	1.2
11/10/09	1.1
11/11/09	1.6
11/12/09	1.5
11/13/09	1.5
11/14/09	2.1
11/15/09	1.3
11/16/09	1.4
11/17/09	2
11/17/09	1.2
11/18/09	1.4
11/19/09	1.3
11/20/09	1.2
11/21/09	1.6
11/22/09	1.6
11/23/09	1
11/24/09	1.3
11/24/09	1.3
11/25/09	1.2
11/26/09	1.2
11/27/09	1.1
11/28/09	1.2
11/29/09	1.2
11/30/09	1.6

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
12/1/09	1.1
12/1/09	1.1
12/2/09	1.4
12/3/09	1.8
12/4/09	1.3
12/5/09	1
12/6/09	0.9
12/7/09	1.1
12/8/09	1
12/8/09	1
12/9/09	1
12/10/09	1.3
12/11/09	1.3
12/12/09	1.5
12/13/09	1.4
12/14/09	1.6
12/15/09	1.7
12/15/09	1.1
12/16/09	1.2
12/17/09	1.4
12/18/09	1.2
12/19/09	1.1
12/20/09	1.2
12/21/09	1
12/22/09	1
12/22/09	0.9
12/23/09	0.9
12/24/09	1.2
12/25/09	1.2
12/26/09	1
12/27/09	0.9
12/28/09	0.9
12/29/09	1.6
12/29/09	1.3
12/30/09	1.6
12/31/09	1.3
1/1/10	0.8
1/2/10	1.2
1/3/10	2.2
1/4/10	1
1/5/10	1.4
1/5/10	0.9
1/6/10	1
1/7/10	1
1/8/10	0.9
1/9/10	1.4
1/10/10	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
1/11/10	1.4
1/12/10	1.2
1/12/10	0.9
1/13/10	1.4
1/14/10	1.3
1/15/10	1.5
1/16/10	1.7
1/17/10	1.4
1/18/10	1.2
1/19/10	1.3
1/19/10	1.2
1/20/10	1.5
1/21/10	1.6
1/22/10	1.4
1/23/10	0.9
1/24/10	1.2
1/25/10	1.1
1/26/10	1.1
1/26/10	0.8
1/27/10	1
1/28/10	1.1
1/29/10	1.1
1/30/10	1.2
1/31/10	1.3
2/1/10	1.3
2/2/10	1
2/2/10	1.4
2/3/10	1
2/4/10	0.7
2/5/10	0.9
2/6/10	1.2
2/7/10	1
2/8/10	1.1
2/9/10	1.1
2/9/10	1.4
2/10/10	0.9
2/11/10	1.2
2/12/10	1.2
2/13/10	0.9
2/14/10	0.9
2/15/10	1
2/16/10	1.2
2/16/10	1.7
2/17/10	1
2/18/10	1.4
2/19/10	1.7
2/20/10	1.5

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
2/21/10	1.6
2/22/10	1.5
2/23/10	1.4
2/23/10	1.5
2/24/10	1.4
2/25/10	1.3
2/26/10	1.2
2/27/10	1.2
2/28/10	1.3
3/1/10	0.9
3/2/10	0.7
3/2/10	0.9
3/3/10	0.8
3/4/10	1
3/5/10	0.9
3/6/10	1
3/7/10	1.2
3/8/10	0.9
3/9/10	1.2
3/9/10	1
3/10/10	0.9
3/11/10	1.3
3/12/10	1.4
3/13/10	0.9
3/14/10	1.2
3/15/10	1.3
3/16/10	0.9
3/16/10	1.4
3/17/10	1.7
3/18/10	1.2
3/19/10	1.4
3/20/10	0.9
3/21/10	1.4
3/22/10	0.8
3/23/10	1.1
3/23/10	1.1
3/24/10	1.2
3/25/10	1.3
3/26/10	1.2
3/27/10	1.2
3/28/10	1.1
3/29/10	1.3
3/30/10	0.9
3/30/10	1.3
3/31/10	1.5
4/1/10	1.8
4/2/10	1.5

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
4/3/10	1.5
4/4/10	1.6
4/5/10	1.9
4/6/10	0.9
4/6/10	1.2
4/7/10	1.2
4/8/10	1.1
4/9/10	1.3
4/10/10	0.9
4/11/10	1.4
4/12/10	1.5
4/13/10	1.5
4/13/10	1.1
4/14/10	1.4
4/15/10	1
4/16/10	1
4/17/10	1.2
4/18/10	1.6
4/19/10	1.1
4/20/10	1.2
4/20/10	1.4
4/21/10	1.4
4/22/10	1.2
4/23/10	1
4/24/10	0.9
4/25/10	0.9
4/26/10	0.8
4/27/10	0.9
4/27/10	1
4/28/10	0.9
4/29/10	0.8
4/30/10	1.2
5/1/10	1
5/2/10	1.2
5/3/10	1
5/4/10	0.8
5/4/10	1
5/5/10	0.8
5/6/10	0.8
5/7/10	1.1
5/8/10	0.9
5/9/10	1
5/10/10	1.1
5/11/10	1.1
5/11/10	1
5/12/10	0.8
5/13/10	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
5/14/10	1.2
5/15/10	0.9
5/16/10	1.1
5/17/10	1.2
5/18/10	0.7
5/18/10	1.5
5/19/10	1.2
5/20/10	1.2
5/21/10	1.2
5/22/10	1.1
5/23/10	1.1
5/24/10	1.1
5/25/10	1
5/25/10	1.1
5/26/10	1.1
5/27/10	1
5/28/10	1.1
5/29/10	0.8
5/30/10	1.2
5/31/10	1.1
6/1/10	1.1
6/1/10	1.3
6/2/10	1.3
6/3/10	1.4
6/4/10	1.2
6/5/10	1.4
6/6/10	1.2
6/7/10	1
6/8/10	1
6/8/10	1.1
6/9/10	1
6/10/10	1.2
6/11/10	1
6/12/10	1
6/13/10	0.8
6/14/10	1
6/15/10	1
6/15/10	1
6/16/10	1.1
6/17/10	1.1
6/18/10	1.2
6/19/10	1.1
6/20/10	0.9
6/21/10	0.8
6/22/10	1
6/22/10	1.5
6/23/10	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
6/24/10	1
6/25/10	1.1
6/26/10	1.1
6/27/10	1.2
6/28/10	1.2
6/29/10	1.2
6/29/10	0.9
6/30/10	1
7/1/10	1.2
7/2/10	1.2
7/3/10	0.9
7/4/10	1
7/5/10	1.2
7/6/10	1
7/6/10	1.2
7/7/10	1
7/8/10	0.8
7/9/10	1
7/10/10	0.8
7/11/10	1.1
7/12/10	0.9
7/13/10	1
7/13/10	1
7/14/10	0.7
7/15/10	0.8
7/16/10	0.7
7/17/10	0.8
7/18/10	0.9
7/19/10	0.6
7/20/10	0.6
7/20/10	0.9
7/21/10	1.3
7/22/10	1
7/23/10	1.3
7/24/10	1.2
7/25/10	1.6
7/26/10	0.9
7/27/10	0.7
7/27/10	0.9
7/28/10	0.9
7/29/10	0.9
7/30/10	1.2
7/31/10	1.2
8/1/10	0.9
8/2/10	1
8/3/10	1.1
8/3/10	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
8/4/10	1.3
8/5/10	1.1
8/6/10	1.1
8/7/10	1.1
8/8/10	1.1
8/9/10	1
8/10/10	1
8/10/10	1
8/11/10	1.4
8/12/10	1.3
8/13/10	0.7
8/14/10	1
8/15/10	0.8
8/16/10	1.2
8/17/10	1.3
8/17/10	0.7
8/18/10	0.8
8/19/10	1.1
8/20/10	0.8
8/21/10	0.8
8/22/10	0.8
8/23/10	0.8
8/24/10	0.8
8/24/10	1
8/25/10	1
8/26/10	0.9
8/27/10	1.2
8/28/10	1.1
8/29/10	1.1
8/30/10	1.2
8/31/10	1.2
8/31/10	0.8
9/1/10	0.8
9/2/10	0.8
9/3/10	0.9
9/4/10	0.8
9/5/10	1
9/6/10	1.1
9/7/10	1.3
9/7/10	0.7
9/8/10	0.9
9/9/10	0.9
9/10/10	0.9
9/11/10	1
9/12/10	0.9
9/13/10	0.9
9/14/10	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
9/14/10	1
9/15/10	1.2
9/16/10	1.1
9/17/10	1.2
9/18/10	1.2
9/19/10	1.2
9/20/10	1.2
9/21/10	1.6
9/21/10	1
9/22/10	1.2
9/23/10	1.1
9/24/10	1.1
9/25/10	1.1
9/26/10	0.8
9/27/10	1.8
9/28/10	2.6
9/28/10	1.2
9/29/10	1.5
9/30/10	1
10/1/10	0.9
10/2/10	1.1
10/3/10	0.8
10/4/10	1
10/5/10	0.9
10/5/10	0.9
10/6/10	1.2
10/7/10	1
10/8/10	1
10/9/10	1.1
10/10/10	1.2
10/11/10	1.1
10/12/10	0.9
10/12/10	0.8
10/13/10	0.8
10/14/10	1
10/15/10	1.1
10/16/10	0.9
10/17/10	1.2
10/18/10	0.8
10/19/10	1.1
10/19/10	1.4
10/20/10	0.8
10/21/10	1.4
10/22/10	1.2
10/23/10	1.3
10/24/10	1.2
10/25/10	0.9

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
10/26/10	1
10/26/10	0.7
10/27/10	0.9
10/28/10	1.3
10/29/10	1
10/30/10	0.9
10/31/10	1
11/1/10	1.2
11/2/10	0.8
11/2/10	0.7
11/3/10	0.8
11/4/10	1.2
11/5/10	1
11/6/10	0.9
11/7/10	1.4
11/8/10	1.4
11/9/10	1.3
11/9/10	1.1
11/10/10	0.7
11/11/10	1.2
11/12/10	1.3
11/13/10	1.1
11/14/10	1.1
11/15/10	0.8
11/16/10	0.6
11/16/10	0.9
11/17/10	1
11/18/10	0.9
11/19/10	0.7
11/20/10	0.9
11/21/10	1.1
11/22/10	1
11/23/10	1
11/23/10	N.A.
11/24/10	0.7
11/25/10	0.9
11/25/10	0.7
11/26/10	0.8
11/27/10	0.7
11/28/10	1
11/29/10	0.8
11/30/10	0.8
11/30/10	0.7
12/1/10	0.9
12/2/10	0.6
12/3/10	0.7
12/4/10	1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
12/5/10	0.8
12/6/10	0.9
12/7/10	1
12/7/10	1
12/8/10	1
12/9/10	0.9
12/10/10	0.8
12/11/10	1.1
12/12/10	0.8
12/13/10	1.1
12/14/10	1.3
12/14/10	1
12/15/10	0.9
12/16/10	1
12/17/10	1
12/18/10	1.3
12/19/10	1.1
12/20/10	1.5
12/21/10	1.1
12/21/10	0.9
12/22/10	0.9
12/23/10	0.7
12/24/10	1
12/25/10	0.8
12/26/10	0.8
12/27/10	0.9
12/28/10	1.1
12/28/10	1.5
12/29/10	1.3
12/30/10	1
12/31/10	0.9
1/1/11	1.4
1/2/11	0.9
1/3/11	1.1
1/4/11	1
1/4/11	1.1
1/5/11	1.1
1/6/11	1.1
1/7/11	1
1/8/11	1
1/9/11	0.8
1/10/11	0.9
1/11/11	1
1/11/11	1.1
1/12/11	1.1
1/13/11	1
1/14/11	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
1/15/11	1.4
1/16/11	1.3
1/17/11	1.6
1/18/11	1.5
1/18/11	1.2
1/19/11	1.3
1/20/11	1.6
1/21/11	1.9
1/22/11	1.4
1/23/11	1.8
1/24/11	1.5
1/25/11	1
1/25/11	1.1
1/26/11	1.1
1/27/11	1.6
1/28/11	1.2
1/29/11	1.5
1/30/11	1.7
1/31/11	1.4
2/1/11	0.9
2/1/11	0.9
2/2/11	1
2/3/11	1.2
2/4/11	1.2
2/5/11	1.4
2/6/11	1.5
2/7/11	3.7
2/7/11	2.4
2/8/11	1.3
2/8/11	1.5
2/9/11	1.1
2/10/11	1.7
2/11/11	1.4
2/12/11	1.2
2/13/11	1.7
2/14/11	1.3
2/15/11	1
2/15/11	1.2
2/16/11	1.1
2/17/11	1
2/18/11	1.5
2/19/11	1.4
2/20/11	1.6
2/21/11	1.1
2/22/11	1.4
2/22/11	1.1
2/23/11	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
2/24/11	1.3
2/25/11	1.1
2/26/11	1
2/27/11	1.6
2/28/11	1.2
3/1/11	1.1
3/1/11	1
3/2/11	1
3/3/11	1.3
3/4/11	1
3/5/11	1
3/6/11	1.1
3/7/11	1.1
3/8/11	0.7
3/8/11	1.1
3/9/11	1.2
3/10/11	0.9
3/11/11	1.2
3/12/11	1.1
3/13/11	0.9
3/14/11	1.1
3/15/11	1.2
3/15/11	1.1
3/16/11	1.2
3/17/11	1.1
3/18/11	1
3/19/11	1.1
3/20/11	1.1
3/21/11	1.5
3/22/11	1.3
3/22/11	1.2
3/23/11	1.3
3/24/11	1.1
3/25/11	1.5
3/26/11	1.7
3/27/11	1.5
3/28/11	1.2
3/29/11	1.1
3/29/11	0.9
3/30/11	1.2
3/31/11	1
4/1/11	1
4/2/11	1.1
4/3/11	0.9
4/4/11	1
4/5/11	1.1
4/5/11	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
4/6/11	1.6
4/7/11	1.5
4/8/11	1.2
4/9/11	0.9
4/10/11	1.2
4/11/11	1.5
4/12/11	1.2
4/12/11	1.3
4/13/11	1.6
4/14/11	1.3
4/15/11	1.1
4/16/11	1.5
4/17/11	1.1
4/18/11	1.2
4/19/11	1.1
4/19/11	1
4/20/11	1
4/21/11	1.1
4/22/11	1
4/23/11	1.2
4/24/11	1.2
4/25/11	1.3
4/26/11	1.4
4/26/11	1
4/27/11	1.3
4/28/11	1.1
4/29/11	1.7
4/30/11	1.1
5/1/11	1.5
5/2/11	1.1
5/3/11	1.4
5/3/11	1
5/4/11	1
5/5/11	1.1
5/6/11	1.1
5/7/11	1
5/8/11	1.3
5/9/11	1.2
5/10/11	1.2
5/10/11	1.1
5/11/11	1.1
5/12/11	1
5/13/11	1
5/14/11	1.3
5/15/11	1.6
5/16/11	1.2
5/17/11	1.3

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
5/17/11	1.4
5/18/11	1.2
5/19/11	1.1
5/20/11	1.3
5/21/11	1.5
5/22/11	1.1
5/23/11	1.3
5/24/11	1.3
5/24/11	1.3
5/25/11	1.3
5/26/11	1.2
5/27/11	1.6
5/28/11	1
5/29/11	1.2
5/30/11	1.5
5/31/11	1.1
5/31/11	1.2
6/1/11	1.2
6/2/11	0.9
6/3/11	1.1
6/4/11	0.8
6/5/11	0.8
6/6/11	0.9
6/7/11	1.3
6/7/11	0.9
6/8/11	1.2
6/9/11	0.9
6/10/11	1
6/11/11	0.8
6/12/11	0.8
6/13/11	1.3
6/14/11	0.8
6/14/11	1
6/15/11	1.1
6/16/11	1
6/17/11	0.6
6/18/11	0.9
6/19/11	0.9
6/20/11	1
6/21/11	1
6/21/11	1
6/22/11	1.1
6/23/11	0.8
6/24/11	1.2
6/25/11	1.2
6/26/11	1
6/27/11	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
6/28/11	1.1
6/28/11	1
6/29/11	0.8
6/30/11	0.9
7/1/11	1.2
7/2/11	0.9
7/3/11	0.8
7/4/11	1.2
7/5/11	1
7/5/11	1
7/6/11	1
7/7/11	1.3
7/8/11	1.1
7/9/11	1
7/10/11	1
7/11/11	0.8
7/12/11	0.8
7/12/11	0.9
7/13/11	0.9
7/14/11	0.7
7/15/11	0.8
7/16/11	0.9
7/17/11	1
7/18/11	0.7
7/19/11	0.7
7/19/11	0.8
7/20/11	0.8
7/21/11	0.9
7/22/11	0.7
7/23/11	0.7
7/24/11	0.9
7/25/11	0.9
7/26/11	0.7
7/26/11	0.8
7/27/11	1.1
7/28/11	0.9
7/29/11	0.7
7/30/11	0.8
7/31/11	0.6
8/1/11	0.8
8/2/11	0.8
8/2/11	1
8/3/11	0.6
8/4/11	0.6
8/5/11	0.9
8/6/11	0.8
8/7/11	0.8

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
8/8/11	0.7
8/9/11	0.8
8/9/11	1
8/10/11	1
8/11/11	0.9
8/12/11	0.9
8/13/11	0.9
8/14/11	0.8
8/15/11	0.6
8/16/11	0.7
8/16/11	1.5
8/17/11	0.9
8/18/11	0.8
8/19/11	0.7
8/20/11	1.2
8/21/11	1.1
8/22/11	0.8
8/23/11	0.9
8/23/11	0.8
8/24/11	1
8/25/11	0.9
8/26/11	0.9
8/27/11	0.9
8/28/11	0.9
8/29/11	0.7
8/30/11	0.8
8/30/11	0.8
8/31/11	0.6
9/1/11	0.7
9/2/11	0.8
9/3/11	0.9
9/4/11	1.1
9/5/11	1
9/6/11	0.8
9/6/11	0.9
9/7/11	0.8
9/8/11	1.7
9/9/11	0.9
9/10/11	1.2
9/11/11	1.1
9/12/11	0.7
9/13/11	0.7
9/13/11	0.8
9/14/11	0.7
9/15/11	0.8
9/16/11	0.7
9/17/11	0.7

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
9/18/11	1.1
9/19/11	0.8
9/20/11	0.8
9/20/11	0.9
9/21/11	0.8
9/22/11	0.8
9/23/11	1.1
9/24/11	0.8
9/25/11	0.8
9/26/11	1.1
9/27/11	0.8
9/27/11	1.2
9/28/11	1
9/29/11	0.8
9/30/11	0.9
10/1/11	0.8
10/2/11	0.7
10/3/11	1
10/4/11	1.1
10/4/11	1.1
10/5/11	1
10/6/11	0.9
10/7/11	1.2
10/8/11	1.1
10/9/11	0.8
10/10/11	0.8
10/11/11	0.9
10/11/11	1
10/12/11	1
10/13/11	1
10/14/11	0.8
10/15/11	0.7
10/16/11	0.6
10/17/11	0.7
10/18/11	1.1
10/18/11	1.1
10/19/11	0.7
10/20/11	1.2
10/21/11	1
10/22/11	1.1
10/23/11	0.8
10/24/11	1
10/25/11	0.9
10/25/11	1
10/26/11	1
10/27/11	1
10/28/11	0.8

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
10/29/11	0.7
10/30/11	0.8
10/31/11	0.9
11/1/11	0.8
11/1/11	0.8
11/2/11	0.8
11/3/11	1
11/4/11	0.8
11/5/11	0.8
11/6/11	1
11/7/11	1.2
11/8/11	0.9
11/8/11	1
11/9/11	1
11/10/11	1.2
11/11/11	1.7
11/12/11	1.3
11/13/11	1.2
11/14/11	1.6
11/15/11	1.8
11/15/11	1.7
11/16/11	1.2
11/17/11	1.6
11/18/11	0.8
11/19/11	1.1
11/20/11	0.9
11/21/11	1.2
11/22/11	1
11/22/11	0.9
11/23/11	1
11/24/11	0.9
11/25/11	1.3
11/26/11	0.9
11/27/11	0.9
11/28/11	0.9
11/29/11	0.9
11/29/11	1.1
11/30/11	0.8
12/1/11	0.8
12/2/11	0.9
12/3/11	1
12/4/11	0.9
12/5/11	1.4
12/6/11	1
12/6/11	1.1
12/7/11	1.2
12/8/11	1.1

Tables C-6: Effluent Data for Turbidity

Sample Collection Date	Turbidty Effluent (NTU)
12/9/11	1.3
12/10/11	1.1
12/11/11	1.3
12/12/11	1.5
12/13/11	1.2
12/13/11	1.4
12/14/11	1.3
12/15/11	1.4
12/16/11	1.5
12/17/11	N.A
12/18/11	N.A
12/19/11	1.1
12/20/11	1.3
12/20/11	1.2
12/21/11	1.3
12/22/11	1.2
12/23/11	1.2
12/24/11	1.1
12/25/11	1.2
12/26/11	1.2
12/27/11	1.4
12/27/11	1.2
12/28/11	1.5
12/29/11	1.6
12/30/11	1.6
12/31/11	1.7

Tables C-7: Effluent Data for Oil and Grease

Collection Date	Oil and Grease Effluent (mg/L)	Oil and Grease Effluent Minimum Detection Limit (mg/L)
1/3/08	ND	0.6
4/3/08	0.7	0.6
7/2/08	ND	0.6
10/7/08	ND	0.6
1/6/09	0.7	0.6
4/7/09	ND	0.6
7/8/09	ND	0.6
10/5/09	ND	0.6
1/5/10	ND	1.4
4/5/10	1.5	1.4
7/8/10	ND	1.4
10/5/10	ND	1.4
1/6/11	ND	1.4
4/4/11	ND	1.4
7/6/11	ND	1.4
10/3/11	2.1	1.4
1/4/12	0.88	0.68
4/5/2012	ND	0.68

Appendix D – Plant Biosolids Specific Gravity Calculations

Determining Specific Gravity of Wet Solids for AHL Calculations

The following is the conservation of mass formula, to determine the specific gravity for typical sludge solids:

M_s/S_s = %FS x M_s/S_{fs} + %VS x $M\cancel{s}/S_{vs}$

Or,

Ss = 1/[(%FS/$S_{fs)}$ +(%VS/S_{vs})]

Where:

M_s = Mass of solids (kg)
S_s = Specific Gravity of Solids (kg/L)
%FS = Percentage of the volume of fixed solids versus the total volume of sludge (no units)
S_{fs} = Specific Gravity of Fixed solids, assumed to be 2.5 mg/l per *Guidance Manual Appendix* pg. S-2 (kg/L)
%VS = Percentage of the volume of volatile solids versus the total volume of sludge, 62.5% per *Guidance Manual Appendix* pg S02 (no units)
S_{vs} = Specific Gravity of Volatile solids, assumed to be 1.2 mg/l per *Guidance Manual Appendix* pg. S-2 (kg/L)

S_s = 1/[((100%-62.5%)/2.5 kg/L)+(62.5%/1.2 kg/L)]

S_s = 1.49 kg/L

The following is the conservation of mass for wet solids:

M_{wb}/S_{wb} = %TS x M_{wb}/S_s + (1-%TS) x M_{wb}/S_w

Or,

S_{wb} = 1/(%TS/S_s + (1-%TS)/S_w)

Where:

M_{wb} = Mass of wet biosolids (kg)
S_{wb} = Specific Gravity of Wet Biosolids (kg/L)
%TS = Percentage of the volume of total solids versus total volume of biosolids (no units) 74%
S_w = Specific gravity of water, 1.00 kg/L

S_{wb} = 1/[(74%)/1.49kg/L+(100%-0.74%)/1.0 kg/L)]

S_{wb} = 1.32 kg/L