Report and Summary Point Loma Wastewater Treatment Plant & Ocean Outfall

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

Monitoring and Reporting
Program No. R9-2009-0001
NPDES No. CA 0107409

CERTIFIED
Public Utilities Department
Continual Improvement, Prevention of Pollution, Regulatory Compliance
ISO 14001

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THE CITY OF SAN DIEGO

June 30, 2014

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attn: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the 2013 Pt. Loma Wastewater Treatment Plant Ocean Outfall Annual Reports and Summary, as specified in discharge permit Order No. R9-2009-0001, NPDES No. CA0107409 (Point Loma).

I certify under penalty of law 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Peter Vroom, Ph.D.
Deputy Director
Environmental Monitoring & Technical Services Division

BGB/caq

cc: EPA Region 9
San Diego County Department of Environmental Health
Distribution
File

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Environmental Monitoring and Technical Services Division • Public Utilities
2392 Kincaid Road • San Diego, CA 92101-0811
Tel (619) 758-2300 Fax (619) 758-2309

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City of San Diego
Public Utilities Department

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Point Loma Wastewater Treatment Plant and Ocean Outfall Annual Monitoring Report 2013

City of San Diego
Public Utilities Department
Environmental Monitoring & Technical Services Division
Wastewater Chemistry Laboratory
5530 Kiowa Drive
La Mesa, CA 91942
Phone: (619) 668-3212/3215 FAX: (619) 668-3250

Supervising Editors & Science Staff:
Brent Bowman
Lee King

Editorial Production & Support
Data Management, Report Generation, Data Tables & Graphics
Wendy Johnson
Armando Martinez
Fernanado Martinez
Corinna Quinata

For Section VIII. Discussion of Results, subsection A. Plant Facility Operation Report

Operations & Maintenance Division
1902 Gatchell Road
San Diego, CA
Phone: (619) 221-8770 FAX: (619) 221-8305

Point Loma Wastewater Treatment Superintendent
K.C. Shankles

Senior WW Operations Supervisor
David Huntamer

WW Operations Supervisor- Process Control
Carlos Nunez

Senior Civil Engineer
Richard Snow

Senior Plant Technician Supervisor
Theodore Taylor

Senior Power Plant Supervisor
vacant

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I. Introduction

A. Executive Summary

Purpose:
This report meets the annual reporting requirements as specified in San Diego Regional Water Quality Control Board, Order No. R-2009-0001[1] (NPDES Permit No. CA0107409) for the E. W. Blom Point Loma Wastewater Treatment Plant (PLWTP). It also serves as a comprehensive historical record and reference of operational and compliance metrics.

Background:
The Point Loma Wastewater Treatment Plant is located at 1902 Gatchell Road, San Diego, California and is the main treatment facility in the Metropolitan Wastewater System. Located on a 40-acre site at the western end of Point Loma, the plant went into operation in 1963 to serve the growing needs of the region. The plant serves approximately 2.2 million people and treats approximately 152 million gallons (5-year average) of wastewater per day with a maximum capacity of 240 million gallons per day (mgd). In 1993, the outfall was extended from a length of two miles to its present length of four and half miles off the coast of Point Loma. The 12-foot diameter outfall pipe terminates at a depth of approximately 320 feet in the Pacific Ocean in a Y-shaped diffuser structure to ensure dispersal of effluent. The Advanced Primary[2] Treatment system includes chemically enhanced primary sedimentation and anaerobic biosolids processing. For a detailed discussion of the plant and treatment process see subsection D. and section III. Plant Operations Summary.

[1] This is a Clean Water Act section 301(h) modified permit (Clean Water Act), as modified by the Ocean Pollution Reduction Act of 1994 (OPRA).
[2] Sometimes called Chemically Enhanced Primary Treatment (CEPT).

The following table summarizes the 2013 results, as annual averages or annual ranges, of analyses obtained during the monitoring of the effluent at the PLWTP.

2013 NPDES Compliance Assessment for Conventional Pollutants for the Point Loma WWTP (Order No. R9-2009-0001/NPDES No. CA0107409)				
Parameter	**NPDES Permit Limits**		**Values and Annual Ranges**	**Note**
BOD_5	Mean Annual % Removal	≥ 58 %*	65.2%	System-wide (monthly averages).
TSS	Mean Monthly % Removal	≥ 80 %	86.4 – 93.0%	System-wide (monthly averages).
	Monthly Average	75 mg/L	24 – 50	
	Mass Emissions	13,598 mt/yr	6,770	
Oil and Grease	Monthly Average	25 mg/L	8.9 – 14.8	
		42,743 lbs/day	10,265 – 17,762	
	Weekly Average*	40 mg/L	8.0 – 16.1	
		68,388 lbs/day	9,525 – 19,241	
	Maximum at any time	75 mg/L	44.3	
		128,228 lbs/day	52,833	
Settleable Solids	Monthly Average	1.0 mL/L	ND – 0.5	
	Weekly Average*	1.5 mL/L	ND – 0.7	
	Maximum at any time	3.0 mL/L	2.0	
Turbidity	Monthly Average	75 NTU	34 – 58	
	Weekly Average*	100 NTU	30.4 – 63.6	
	Maximum at any time	225 NTU	94.6	
pH	Range	6.0 – 9.0 pH	6.96-7.47	

* = **Weekly Average:** defined as the highest allowable average of daily discharges over a calendar week (Sunday through Saturday). Data averaged from 30-Dec-2012 to 28-Dec-2013 as per definition of weekly average definition.

Other Key metrics for 2013	**Annual Daily Average**	**Annual Total** (million gals.)
Effluent Flow (mgd)	143.8	52,470

Parameter	**Annual Daily Average** (mg/L)	**System-wide Removal** (%)	**Plant Removal** (%)	**Annual Mass Emission** (metric tons)
TSS[3]	34	90.7	90.4	6,770
BOD[4]	115	65.3	63.0	22,897

Compliance:

The major permit discharge limitations including flows, TSS and BOD removals were within discharge requirements. The required monitoring program creates over 15,000 opportunities to be in non-compliance, as well as several dozen annual Mass Emissions Benchmarks applicable to the discharge from the PLWTP.

[3] Total Suspended Solids; mg/L, i.e. parts per million

[4] Biochemical Oxygen Demand; mg/L

B. Explanatory Notes

The purpose of this document is to both meet the requirements of the Monitoring and Reporting Program (MRP) in Order No. R9-2009-0001, NPDES Permit No. CA0107409, and to provide a reference source and resource tools for both regulatory agencies and City staff and their consultants. To this end, the past year's data are presented in tabular and graphical form. Monitoring results only reported annually are presented, as well as the special items and discussions itemized in Order No. R9-2009-0001.

This document is comprehensive, including supporting information on analytical methods, frequency and changes in analyses, long term tables of selected analytes, operational data, background analyses and treatment plant process control. Where the permit sets limits or requests the analysis of various groups of compounds (such as chlorinated and non-chlorinated phenols, PCBs, hexachlorocyclohexanes, etc.) we have provided summaries and averages of these groups and also of the individual compounds.

For averaging and other calculations, "less than" and "not detected" (nd) values were treated as zero. In many parts of the report zero values are found. Our Laboratory Information Management System reads "less than" values as zero in calculating summary values such as monthly or annual averages. When zeros are found, the reader can reasonably apply the method detection limits (MDL) in evaluating the data. Because "less than" values are averaged as zero, values in summary tables may be less than detection limits; these are simple numeric means (or minimums). The data tables may also contain values expressed as a <X (less than), where x represents the MDL. MDLs are typically included in the summary tables.

A further limitation is that statistical confidence in the results of an analysis is heavily dependent upon the concentration relative to the Method Detection Limit (MDL). Essentially all of our detection limits have been established using the procedure in 40 CFR, part 136. This statistical basis for the MDL results in a defined statistical confidence (at the 99% Confidence Interval) of essentially ±100% where the result is at or near the MDL. Only at concentrations approximately 5 times the MDL is the confidence interval at ±20%. While the precision of our methods generally ranges from 2–3 significant figures, the above limitations of confidence should always be considered.

Where possible, the influent and effluent values of a given parameter have been included on the same graph to make the removals and other relationships readily apparent. Please note that many of the graphs are on expanded scales where the y-axes (concentration) do not start at zero, but instead are scaled to highlight the range of concentrations where variation takes place. These expanded scales make differences and some trends obvious that might normally not be noticed; however, they also may inadvertently place more weight on relatively minor changes or trends than they deserve. Please reference the chart axis scales.

E" Qualifier, estimated concentrations:

Ocean data for chlorinated pesticides and PCB congeners contains data that are qualified with a prefixed "**E**" (see example below). This indicates Estimated concentrations. Analytical technique is sufficiently specific and sensitive enough (GC-MS-MS) so that qualitative identification has high confidence while the quantitative data are below 40CFR136 confidence intervals for MDL concentrations. The concentrations reported with this qualifier indicate that one or more tests identified the compound was present but below detection limits for quantification. When reported as part of annual averages, an "E" qualifier may accompany average concentration values either below or above MDLs.

Analyte	MDL	Units	SD-14 2001 Avg	SD-17 2001 Avg	SD-18 2001 Avg	SD-19 2001 Avg	SD-20 2001 Avg	SD-21 2001 Avg	RF-1 2001 Avg
Hexachlorobenzene	13.3	UG/KG	<13.3	<13.3	<13.3	<13.3	E3.7	<13.3	**E2.8**
BHC, Gamma isomer	100	UG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor	20	UG/KG	ND	ND	ND	ND	ND	ND	ND
Aldrin	133	UG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	20	UG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	13.3	UG/KG	<13.3	E43.5	<13.3	E107.0	<13.3	<13.3	**E22.0**
Alpha Endosulfan	133	UG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	13.3	UG/KG	<13.3	<13.3	ND	<13.3	<13.3	ND	<13.3
Trans Nonachlor	20	UG/KG	E11.3	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
p,p-DDE	13.3	UG/KG	713.0	1460.0	459.0	2030.0	618.0	693.0	712.0
Dieldrin	20	UG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	13.3	UG/KG	ND	ND	ND	<13.3	<13.3	<13.3	<13.3
Endrin	20	UG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	13.3	UG/KG	<13.3	ND	ND	<13.3	<13.3	ND	<13.3
p,p-DDD	13.3	UG/KG	E7.5	E5.5	<13.3	<13.3	E7.8	<13.3	E18.2
p,p-DDT	13.3	UG/KG	E5.9	<13.3	<13.3	<13.3	E5.4	<13.3	<13.3
Mirex	13.3	UG/KG	<13.3	ND	ND	ND	ND	ND	ND

nd= not detected
NA= not analyzed
NS= not sampled
E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

Variation in summary data in tables

Very small differences may occur (<0.1%), between tables for annual or monthly averages, totals, and other[5] statistical summary data due to rounding differences or how the underlying data are treated. For example, the computerized report programs may perform summary calculations using daily values (even though only monthly values display on the table) or monthly averages. There will be small rounding variation between the two approaches.

Typically, mass emissions reported in the monthly summary tables are calculated from the monthly averages shown in the table. In these tables, raw data are rounded one significant figure on the intermediate result. A calculation rounded only after the final result will generally be slightly different in the last significant figure. Additionally, statistical summary data of calculated values (e.g. mass emissions, dry tons, etc.) may be calculated from monthly averages or using the annual average data. This also may introduce variation that is statistically insignificant.

[5] e.g. mass emissions, percent removals, etc.

C. Overview of the Metro System

The City operates wastewater facilities to transport, treat, reclaim, reuse, and discharge wastewater and its by-products collected from the Metropolitan Wastewater System (the System). The System serves a population of approximately 3.2 million people providing for conveyance, treatment, reuse, and disposal of wastewater within a 450 square mile service area. The Metro System currently consists of several service areas including the City of San Diego (serviced by the Municipal Sub-System) and the 15-regional Participating Agencies. Wastewater treatment for the System is provided at the North City Water Reclamation Plant (NCWRP), the South Bay Water Reclamation Plant (SBWRP), and the Point Loma Wastewater Treatment Plant (PLWTP). Solids treatment and handling are provided at the PLWTP and the Metro Biosolids Center (MBC).

Each Participating Agency is responsible for the wastewater collection system within its boundaries to the point of discharge to the System. Wastewater flows from the Municipal Sub-System comprise approximately 65% of the Metro Sub-System flows. All System facilities are owned by the City of San Diego and are managed by PUD.

A map detailing major facilities in the System and the participating agencies is included.

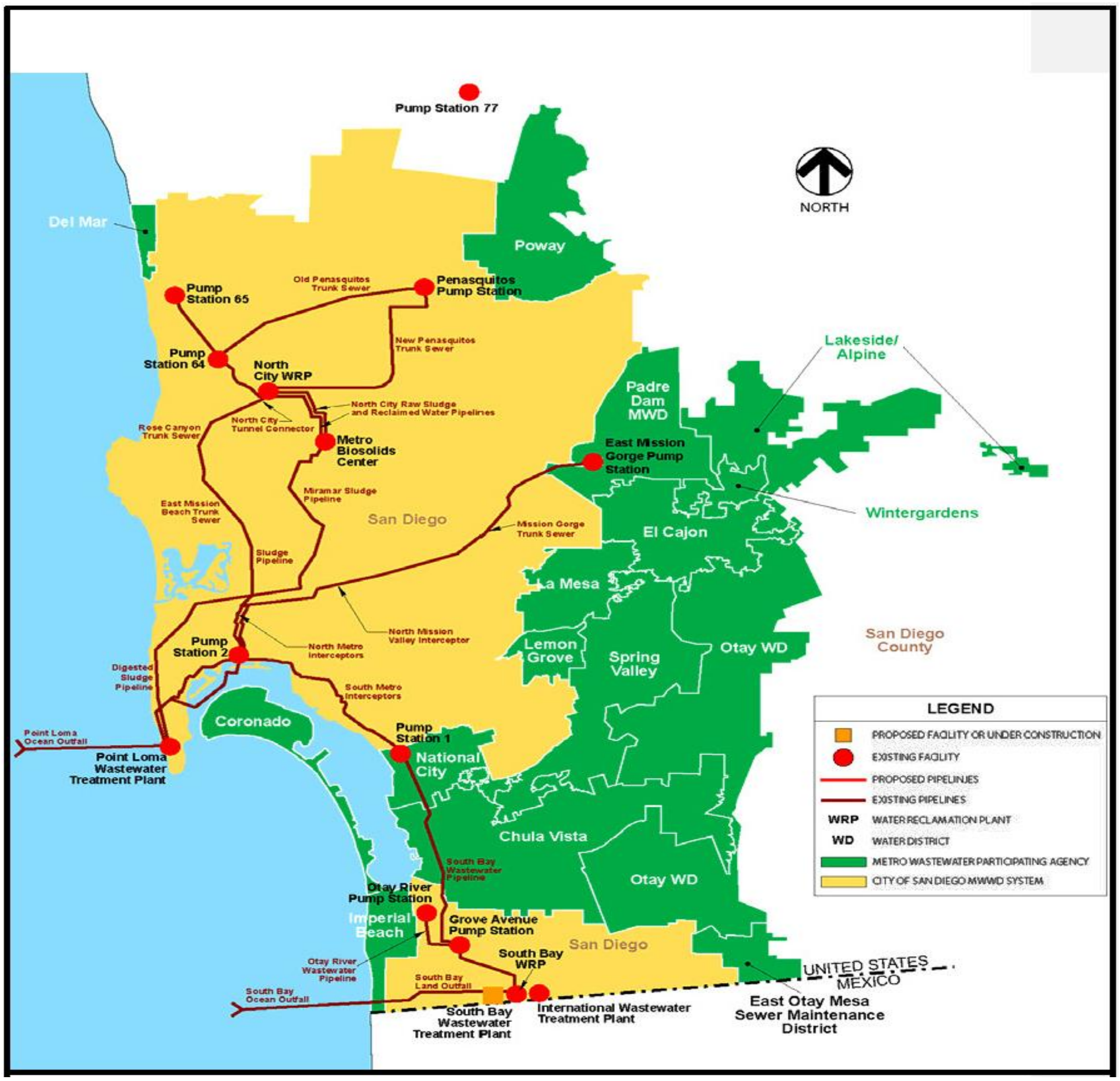
The System is a complex network of pipelines and pump stations that collect wastewater and convey it for treatment and disposal or reuse. The PLWTP serves as the terminus for the System and is capable of treating all flows generated within the System. Within the System are two water reclamation plants, the NCWRP and the SBWRP, that pull flow from the sewers for treatment and reuse. The System also includes the Metro Biosolids Center (MBC) that treats and disposes of all treatment process solids material removed by the treatment plants.

The PLWTP is the largest of the wastewater treatment plants in the System and is the terminus of the system. It is an advanced primary treatment WWTP that uses chemical addition to increase performance of the primary clarifiers. The PLWTP discharges effluent through the Point Loma Ocean Outfall (PLOO). As an advanced primary treatment WWTP, performance and effluent limits are singly determined by effluent quality, but also against the California Ocean Plan and the Basin Plan that, combined, address the water quality and beneficial uses of the Pacific Ocean.

The plant has a rated capacity of 240 million gallons per day (mgd) and currently operates at an average daily flow rate of 144 mgd. The NCWRP has a rated capacity of 30 mgd and currently operates at a nominal flow-rate of 15.4 mgd. The SBWRP has a rated capacity of 15 mgd and is currently treating a nominal 8.0 mgd. The PLWTP is a modern primary treatment facility and the NCWRP and SBWRP are both modern tertiary treatment facilities.

The other two facilities, the NCWRP and the SBWRP are scalping plants that divert water from the System and treat it for reclamation purposes. Both plants currently operate as secondary treatment plants and reclaim water to tertiary standards to meet demand. Demand will fluctuate depending on the time of year and the type and number of customers. The NCWRP returns all secondary effluent that is not reclaimed back to the System for treatment at the PLWTP. However, the solids that are removed, either by sedimentation or biological oxidation, are pumped to the MBC for further treatment. The SBWRP discharges excess secondary effluent to the South Bay Ocean Outfall (SBOO) and returns all solids removed from the sewage to the System for transport to the PLWTP. Performance of both water reclamation plants is measured by each facility's ability to treat reclaimed water to the required standards when discharging to the reclaimed system. Performance of the SBWRP is also measured via secondary treatment standards, as defined in the facility's NPDES permit, when discharging to SBOO.

The MBC processes primary and secondary solids from the NCWRP through anaerobic digestion and dewatering, and processes the digested biosolids from the PLWTP through dewatering. The dewatered biosolids are beneficially used as cover at a local landfill or used as a soil amendment for agricultural purposes. The centrate from the centrifuges is returned to the sewer and treated at the PLWTP. Performance of this facility is measured by the quality of the solids product generated for use or disposal.



ISO 14001 Certification

Wastewater Treatment and Disposal Division (formerly called Operations and Maintenance Division) and the Monitoring and Reporting Programs operated by the Environmental Monitoring and Technical Services Division is certified in ISO[6] 14001, Environmental Management Systems.

[6] International Organization for Standardization.

D. Overview of Point Loma Wastewater Treatment Plant

The Point Loma Wastewater Treatment Plant (PLWTP) is the largest treatment facility in the Metropolitan Wastewater System. The facility is located on a 40 acre site on the Fort Rosecrans military reservation and adjoins the Cabrillo National Monument at the southern tip of Point Loma in the City of San Diego. The plant was first put into operation in 1963 discharging primary treated wastewater 2.5 miles off the coast of Point Loma. In 1993, the existing outfall was lengthened to 4.5 miles which extends 320 feet below the surface in a Y-shaped diffuser to provide for a wide dispersal of effluent into ocean waters.

Presently, the plant is an advanced primary treatment plant capable of removing 85% to 90% of the influent solids and processes approximately 155 million gallons of sewage per day generated by about 2.2 million people. It is the terminal treatment plant in the Metro System. The removed solids are treated in anaerobic digesters before being pumped to the MBC. The current plant configuration can treat up to 240 mgd average daily flow and 432 mgd peak wet weather flow.

Removed solids are anaerobically digested on site. The digestion process yields two products: methane gas and digested biosolids. The methane gas is utilized onsite to fuel electrical generators that produce enough power to make the PLWTP energy self-sufficient. Additional co-generation of electrical power comes from on-site hydroelectric generator utilizing the millions of gallons of daily effluent flow and the energy in the approximately 90-foot drop from the plant to outfall. The plant sells the excess energy it produces to the local electricity grid, offsetting the energy costs at pump stations throughout the service area. The biosolids are conveyed, via a 17-mile pipeline, to the Metro Biosolids Center for dewatering and beneficial use (e.g. soil amendments and landfill cover) or disposal.

The Point Loma Wastewater Treatment Plant earned the 2013 Platinum Peak Performance Award from the National Association of Clean Water Agencies in recognition of twenty years of 100% compliance with National Pollution Discharge Elimination System permit requirements.

E. Discussion of Compliance Record

All permit limits and benchmarks are shown for reference in Chapter 2, Influent and Effluent Data, of this report.

Chemical and Physical Parameters

The Point Loma Wastewater Treatment Plant met the two key discharge limits based on annual performance, including BOD (Biochemical Oxygen Demand) annual average removal and TSS (Total Suspended Solids) mass emissions.

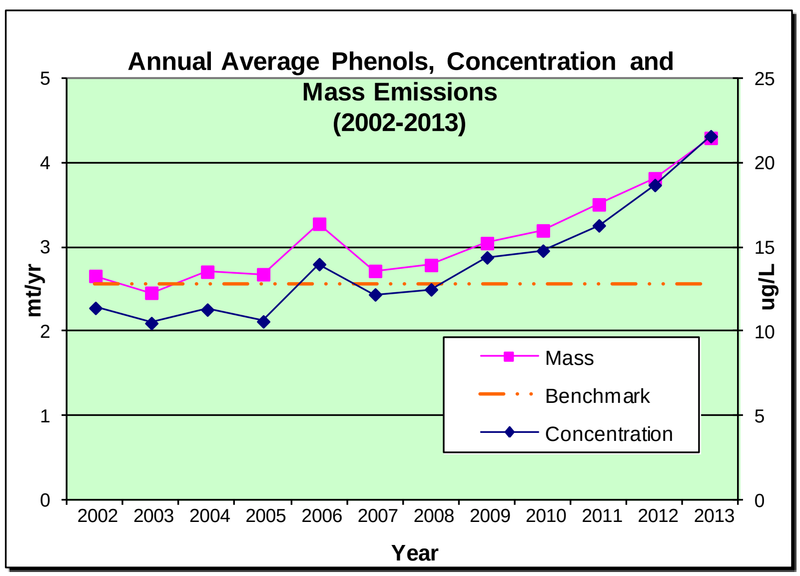
Annual Requirement	2013 Annual Average System-wide Removal (%)	Plant Removal (%)
BOD - met the required ≥58% BOD removal on both the system-wide (required) and plant-only basis.	65.3	63.0
	2013 Annual Mass Emission (metric tons)	
TSS - Mass emission of TSS shall be no greater than 15,000 mt/yr.	6,770	

Other chemical parameters, microbiology, and toxicity.

Note: Permit limits are detailed in Section 1 of this report and effluent data are presented in summary tables in section 2 of this report.

Mass Emissions Benchmarks:

All Mass Emissions Benchmarks were met with the continued exception of non-chlorinated phenols. The Mass Emissions Rate (MER) of 4.30 metric tons/year, for non-chlorinated phenols[7] was higher than the bench mark of 2.57 metric tons/year and last year's 3.82 metric tons. This was based on an average concentration of 21.6 ug/L, which represents approximately 24 pounds per day. On average the plant removed 22.8% of the phenol.



7 All found was as phenol itself.

Tijuana Interceptor Closure Summary

The Tijuana Interceptor (emergency connection) continues to be a non-factor in the operation of the Metropolitan (Metro) Wastewater System and Point Loma WWTP operations. We received no flows from the connector during the year. There are no monitoring data to report and the previously included section discussing the interceptor in the annual reports has been discontinued.

According to the International Boundary Water Commission’s staff reports and our flow meter section data, there was no flow of wastewater through the Tijuana Interceptor for 2013. IBWC staff reported that the emergency connection was not open during 2013.

No samples were taken the entire year of 2013.

F. Plant Facility Operation Report

POINT LOMA 2013 ANNUAL FACILITY REPORT
Document prepared under the direction of Plant Superintendent K.C. Shankles.

The facility report addresses Process Control concerns and considerations and summarizes Plant Operations and Engineering activities.

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PROCESS CONTROL: FACTORS IMPACTING PLANT PERFORMANCE 2013
The following information is being reported in an effort to identify some of the factors, operational and otherwise, that may have impacted plant performance during 2013. Much of the information contained herein is based on assumptions regarding plant performance for this period. The main point of this effort is to continue identifying possible factors influencing plant performance which in turn will help to more effectively operate this facility. The information is presented in chronological order when possible. **Please note that the numerical values used here are largely based on analysis performed by Plant staff at the Process Laboratory and have not always been validated for official reporting purposes.**

Areas that will be covered include: influent temperature and seasonal impacts, sludge blanket levels in the sedimentation basins and raw sludge pumping volumes, plant performance and coagulation chemical application.

INFLUENT TEMPERATURE AND SEASONAL IMPACTS
Influent temperature variations at the Point Loma Facility are usually minimal throughout the year. The temperature of the influent flow, for 2013, ranged from 69.6 to 83.3degrees Fahrenheit. Typically, the influent temperature changes are very subtle as each season progresses. The most pronounced changes in this parameter occur during the winter, after the rainy season begins and during the summer, after periods of sustained warm weather. Temperature changes related to rain storms were normal in 2013. The effect of these temperature changes is difficult to analyze due to the number of variables affected by the rainfall. The average daily influent temperature was calculated for the same period of time seen previously in this report, and the results are recorded below.

For The Period from January 1 through December 31	
Year	Average Daily Influent Temperature
2003	75.9 degrees Fahrenheit
2004	76.7 degrees Fahrenheit
2005	76.8 degrees Fahrenheit
2006	77.0 degrees Fahrenheit
2007	77.0 degrees Fahrenheit
2008	77.5 degrees Fahrenheit
2009	77.6 degrees Fahrenheit
2010	77.0 degrees Fahrenheit
2011	76.3 degrees Fahrenheit
2012	77.4 degrees Fahrenheit
2013	77.6 degrees Fahrenheit

SLUDGE BLANKET LEVELS AND RAW SLUDGE PUMPING VOLUMES
In most circumstances it is assumed that maintaining lower sludge blanket levels in sedimentation basins

and increased raw sludge pumping will produce a plant effluent with a lower total suspended solids (TSS) concentration. Review of data, for daily average sludge blanket levels and daily average total raw sludge pumped shows that the averages for the last ten years were too close to draw any conclusions about the validity of the above assumption.

The average effluent TSS concentration was calculated for 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012 and 2013. This average was then compared to the average sludge blanket level, for all basins in operation, and the average daily raw sludge pumping volume for this same period. The information below reflects the data gathered for this comparison.

For The Period from January 1 through December 31			
Year	Effluent TSS Average Concentration	Average Daily Sludge Blanket Level	Average Daily Raw Sludge Volume
2003	42.0 mg/L	158.0 inches	1.15 MGD
2004	42.6 mg/L	168.0 inches	1.09 MGD
2005	40.7 mg/L	159.0 inches	1.11 MGD
2006	34.9 mg/L	161.0 inches	0.99 MGD
2007	33.9 mg/L	166.0 inches	0.95 MGD
2008	32.2 mg/L	156.4 inches	1.04 MGD
2009	32.2 mg/L	166.2 inches	1.17 MGD
2010	37.1 mg/L	166.5 inches	1.15 MGD
2011	41.3 mg/L	165.5 inches	1.17 MGD
2012	37.1 mg/L	171.0 inches	1.18 MGD
2013	33.5 mg/L	172.0 inches	1.22 MGD

PLANT PERFORMANCE

The patented PRISC-CEPT (Peroxide Regeneration of Iron for Sulfide Control and Chemically Enhanced Primary Treatment) technology in partnership with US Peroxide was utilized in 2013. Essentially, the process consists of ferrous chloride addition at Pump Station 1 for hydrogen sulfide control, hydrogen peroxide addition at Pump Station 2 to regenerate the available iron, hydrogen peroxide addition upstream of PLWTP for regeneration of the available iron, and then ferric chloride addition at the plant for coagulation at a target dose rate of 10.5 mg/L, increased to 12.5 in August 2013. In addition, the PRISC process has been implemented upstream of PLWTP and North City Water Reclamation Plant (NCWRP). The table below demonstrates the average daily gallons of each chemical utilized in the treatment process at the Pump Stations as well as Point Loma Wastewater Treatment Plant for 2007 (baseline) and 2013. For comparison purposes, the average gallons per day from January 1 – December 31 will be utilized for both years. It should be noted that the ferric chloride and anionic polymer application at PLWTP is flow paced. The ferrous chloride used for hydrogen sulfide control at PLWTP is dependent on the digester gas hydrogen sulfide levels.

1/1 -12/31 2007 Daily Average	Ferric Chloride gallons	Ferrous Chloride gallons	Anionic Polymer lbs	Hydrogen Peroxide Gallons
Pump Station 1	0	4034	0	0
Pump Station 2	2317	0	0	0
PLWTP	6937*	1346	189*	0
Total	9254	5380	189	0

*Flow paced

1/1 – 12/31 2013 Daily Average	Ferric Chloride gallons	Ferrous Chloride gallons	Anionic Polymer Lbs	Hydrogen Peroxide gallons
Pump Station 1	0	4350	0	0
Pump Station 2	0	0	0	761
PLWTP	2737*	3064	185*	705
Total	2737	7414	185	1466

*Flow paced

The PRISC-CEPT technology has proven to provide TSS and BOD removal rates well above the permit requirements, while reducing the reliance on iron by regenerating the available iron, reducing the amount of iron in the effluent, and reducing costs.
Turbidity testing, at the sedimentation basin effluents, continued in 2013. This has continued to help identify basins where mechanical or other problems are occurring. Analysis of 24 hour discrete effluent samples for TSS concentration continues on an as-needed basis and is providing data on diurnal variations in plant performance. Data from this analytical work has been and will be used to help develop more effective chemical dosing strategies in the plant.

COAGULATION CHEMICAL APPLICATION

Data for ferric chloride and anionic polymer doses was reviewed to determine the impact that rates of product application have on plant performance. The average daily dose for each chemical was calculated and compared to the TSS and BOD concentrations and removal rates.

For The Period from January 1 through December 31						
Year	Ferric Chloride	Polymer	Average Effluent TSS Concentration	Average Effluent TSS Removal Rate	Average Effluent BOD Concentration	Average Effluent BOD Removal Rate
	Average Daily Dose					
2003	29.9 mg/L	0.18 mg/L	42.0 mg/L	85.1%	105.0 mg/L	61.3%
2004	29.7 mg/L	0.17 mg/L	42.6 mg/L	85.2%	101.8 mg/L	60.2%
2005	26.5 mg/L	0.17 mg/L	40.7 mg/L	85.1%	104.5 mg/L	58.4%
2006	24.0 mg/L	0.14 mg/L	34.9 mg/L	87.7%	101.8 mg/L	62.3%
2007	24.0 mg/L	0.14 mg/L	33.9 mg/L	89.1%	95.3 mg/L	68.4%
2008	15.0 mg/L*	0.14 mg/L	32.2 mg/L	88.2%	96.0 mg/L	65.5%
2009	10.9 mg/L*	0.14 mg/	32.0 mg/L	89.6%	100 mg/L	65.5%
2010	10.7 mg/L*	0.14 mg/L	37.1 mg/L	88.3%	104 mg/L	63.6%
2011	10.5 mg/L*	0.14 mg/L	41.3 mg/L	87.5%	108 mg/L	62.0%
2012	10.4 mg/L*	0.14 mg/L	37.2 mg/L	89.4%	116 mg/L	62.0%
2013	11.3 mg/L	0.16 mg/L	33.5 mg/L	90.4%	106 mg/L	63.0%

*PRISC related reduction

SPECIAL PROJECTS

On September 3, 2008 PLWTP initiated operation of a prototype effluent disinfection system. This was implemented because of a recent determination by USEPA that bacterial water quality objectives in the San Diego Region apply surface to bottom, up to three nautical miles from shore. USEPA's interpretation of the applicability of bacterial objectives was incorporated into the requirements of Order Number R9-2009-0001 NPDES Number CA0107409. In 2013, Environmental Monitoring and Technical Services (EMTS) along with Plant Staff collected samples and compiled data to determine the ability of the plant to comply with both the bacterial objectives and chlorine residual parameters in the NPDES permit. Continuous monitoring of the chlorine residual was incorporated into the new permit. Plant staff initiated a search to find an available technology that would provide reliable monitoring with the quality of the plant's effluent. This has proven to be very difficult due to the nature of the application, the effluent quality and available technology. Plant Staff continues to attempt to find an appropriate on line metering device. In 2012, Brown and Caldwell were commissioned to assist in finding a continuous monitor that will work with the plant's effluent characteristics.

CONCLUSIONS

Plant performance in the year of 2013 exceeded all NPDES Permit requirements.

ENGINEERING REPORT 2013

The following projects were started at the Point Loma Wastewater facility during 2013:
Distributed Control System upgrade to Ovation
Grit Improvement Project
Sedimentation Basin Rehabilitation Project
Digester Cleaning (N2P and C2P)

Status of the Operations and Maintenance Manual

Point Loma WWTP:

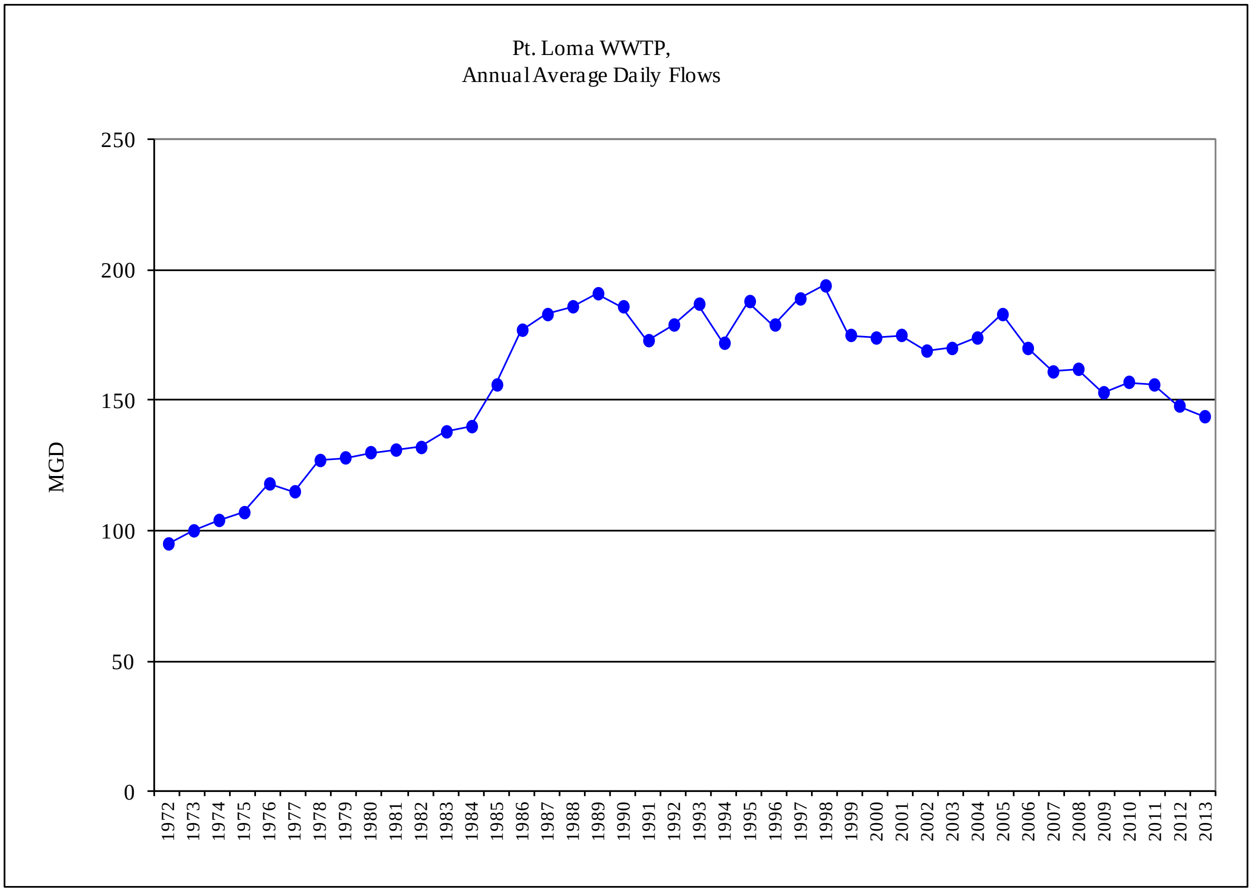
There is an approved O&M Manual for the PLWTP. Plant staff continues to review and update the Manual and Standard Operating Procedures (SOP's) as necessary to keep current with changes in equipment, processes, and standards of practice. New procedures are included as needs are identified. For example, PLWTP Staff, in conjunction with the Safety Staff, have developed and established a standard Lock-Out/Tag-Out Program to serve all PUD Facilities.

Plant Personnel continue the ISO certification and operate the PLWTP facility under the guidelines of the Environmental Management System established under our ISO 14001 program. This program has helped to organize and consolidate facility SOP's, and has been effective in enhancing plant personnel's awareness of industrial and environmental issues as they relate to the work place.

G. Correlation of Results to Plant Conditions

Flow

The 2013 daily average influent flow to the Point Loma WWTP was 143.8 MGD.



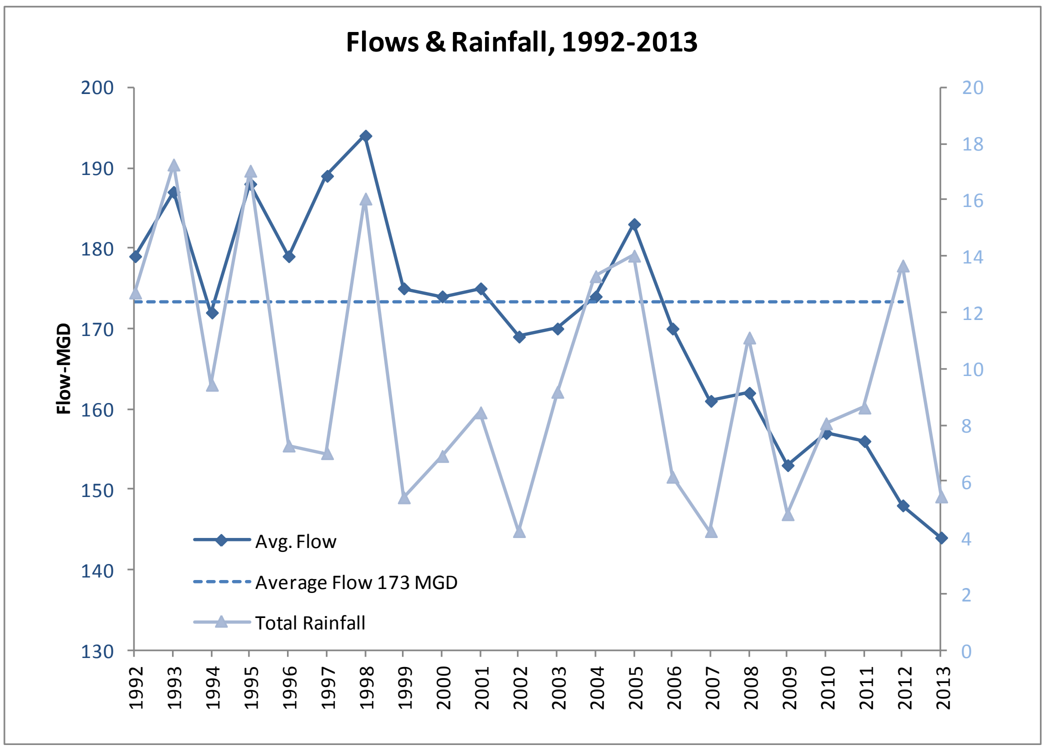
Despite predictions of water usage generated in the 1970s and '80s based on population growth, the data show a continued reduction in the wastewater flow. It appears that the reduced flows caused by drought-induced water conservation efforts have become permanent. In the past 20-years, there is no discernible increase in flows on a sustained basis. In fact, since 1987 the regression line shows a decrease in flow rates. Prior to 2007 there was a significant correlation between rainfall and flow rates (below graph).

In 2013 the amount of system flows treated at the SBWRP averaged over 8 million gallons per day.

Annual Totals

Year	SBWRP Influent (million gals)	SBWRP Discharge to South Bay Outfall (million gals)	System Return Stream (million gals)	Net removed from Metro (million gals)	SBWRP Distributed Recycled Water (million gals)	NCWRP Reclaimed Water Flow to Distribution System (million gals)
2013	2,948	1,171	590	2,343	1,172	2,182
2012	2,942	1,194	479	2,441	1,247	2,082
2011	3,000	1,288	505	2,465	1,177	1,831
2010	3,003	1,248	571	2,404	1,156	1,588
2009	3,042	957	564	2,458	1,501	1,672
2008	3,173	1,167	601	2,555	1,388	1,731
2007	3,158	1,467	527	2,568	1,101	1,630

It is likely that recycling water by North City Water Reclamation Plant is also having an impact on the total system flows. We have not yet quantified and evaluated these contributions.



Precipitation:
The total rainfall of 5.46 inches in 2013 was lower than the total rainfall of 13.67 inches in 2012.

Historical perspective:

The table on this page shows flows from 1972 to the present. New Parshall flumes were installed and calibrated in 1985 and fine-tuned over the next year; this accounts for the jump in flow rates from 1984 to 1986. Since 1986, multiple meters on the flumes have been calibrated yearly and closely match Venturi meter data at Pump Station II (see tables in the Plant Operations section).

Historical Average Daily Flows

YEAR	FLOW (MGD)	YEAR	FLOW (MGD)
1972	95	1993	187
1973	100	1994	172
1974	104	1995	188
1975	107	1996	179
1976	118	1997	189
1977	115	1998	194
1978	127	1999	175
1979	128	2000	174
1980	130	2001	175
1981	131	2002	169
1982	132	2003	170
1983	138	2004	174
1984	140	2005	183
1985	156	2006	170
1986	177	2007	161
1987	183	2008	162
1988	186	2009	153
1989	191	2010	157
1990	186	2011	156
1991	173	2012	148
1992	179	2013	144

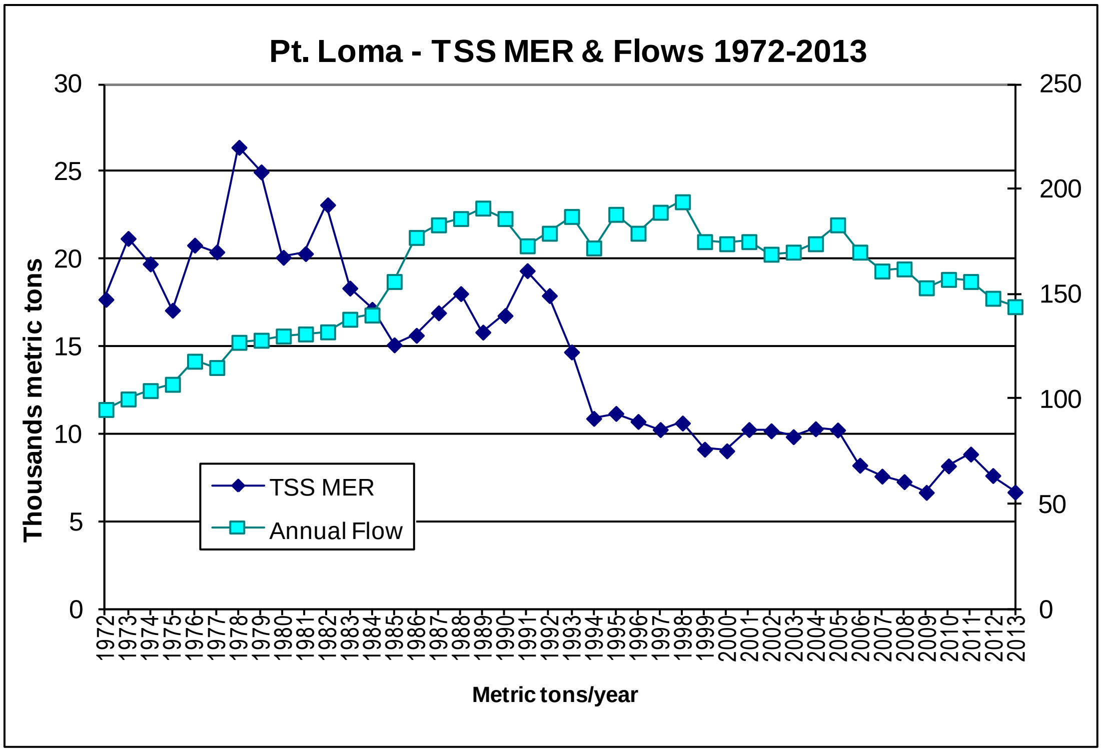
A historical synopsis of changes to the flow rates and the factors effecting those changes are discussed comprehensively in previous Annual Reports. Those factors include:

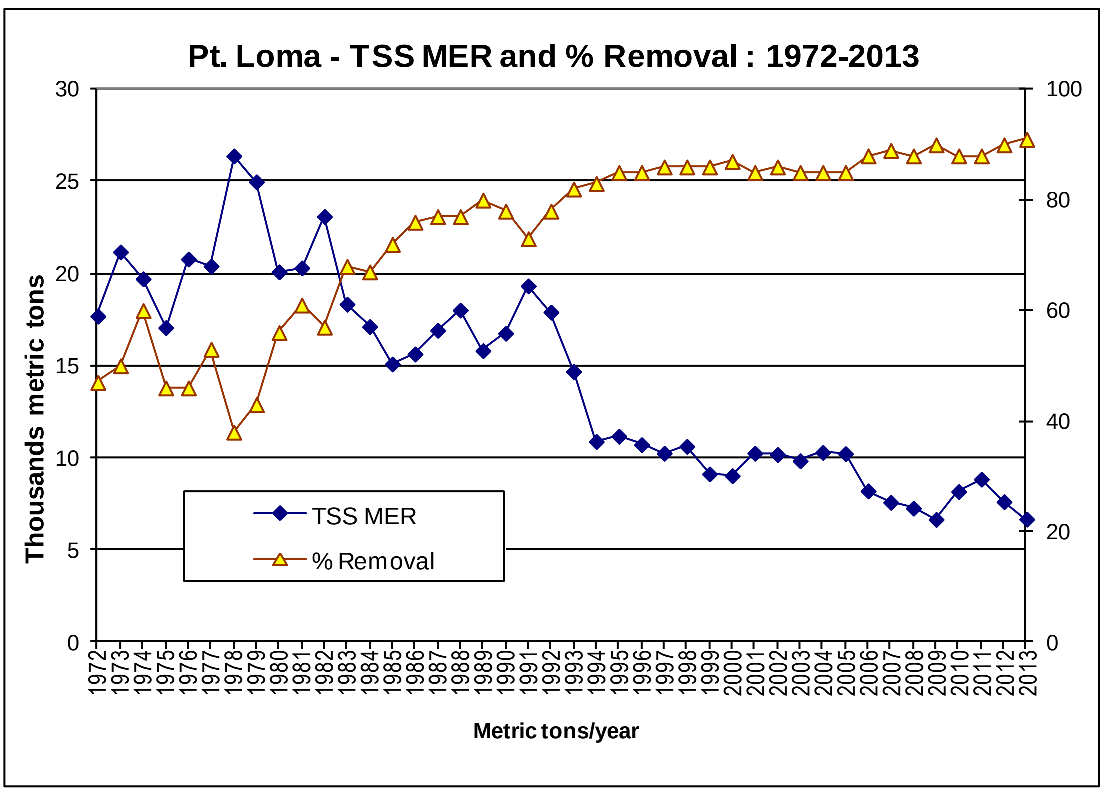
- Weather patterns, drought, and water conservation;
- The Tijuana Interceptor;
- Water Reclamation and Reuse by the North City Water Reclamation Plant, and later, by the South Bay Water Reclamation Plant;
- Population;
- Industrial discharger.

Weather and the various components of water conservation have emerged as more significant factors affecting flows, supplanting the historical role that population growth played.

Suspended Solids, Volatile Suspended Solids and Percent Suspended Solids Removal:

Past data have shown that influent TSS concentrations tend to range from the mid-200's to the low-300’s. The influent suspended solids averaged 349 mg/L this year.


Pt. Loma - TSS MER & Flows 1972-2013
Thousands metric tons
TSS MER
Annual Flow
Metric tons/year


Pt. Loma - TSS MER and % Removal : 1972-2013
Thousands metric tons
TSS MER
% Removal
Metric tons/year

The historical picture of changes in the annual TSS removals and MER and the factors effecting those changes are discussed comprehensively in previous Annual Reports. The factors include:

- Changes in base industries (e.g., tuna canneries);
- Weather and infiltration;
- Sludge handling;
- Water reclamation plants;
- Population changes;
- Tijuana Interceptor.

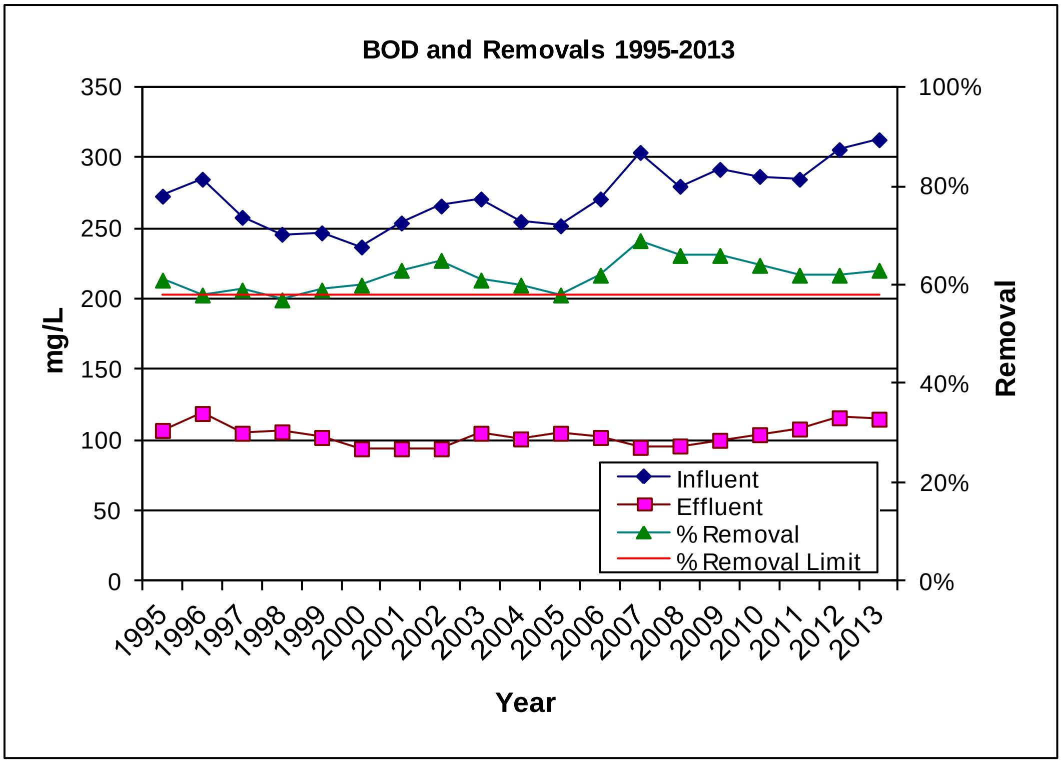
Effluent TSS concentrations also correlate similarly to the MER pattern.

SUSPENDED SOLIDS TRENDS
AVERAGE DAILY SOLIDS

Year	Flow, Annual Average Daily (mgd)	Rainfall, Annual Total (inches)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	TSS % Removal	TSS Mass Emission (lbs/day)	TSS Mass Emission (metric tons /year)
1972	95		257	135	47	106,600	17,697
1973	100		310	154	50	127,947	21,183
1974	104		346	138	60	119,143	19,726
1975	107		215	115	46	103,135	17,075
1976	118		238	127	46	125,281	20,799
1977	115		273	128	53	123,277	20,410
1978	127		245	151	38	159,428	26,396
1979	128		248	143	43	150,933	24,989
1980	130		255	113	56	121,088	20,103
1981	131		289	114	61	122,705	20,316
1982	132		296	126	57	139,563	23,107
1983	138		310	98	68	110,789	18,343
1984	140		272	90	67	103,175	17,129
1985	156		251	70	72	91,190	15,098
1986	177		261	64	76	94,476	15,642
1987	183		289	67	77	102,257	16,930
1988	186		303	70	77	108,587	18,027
1989	191	3.8	305	60	80	95,576	15,824
1990	186	7.29	307	65	78	101,301	16,772
1991	173	13.46	295	81	73	116,810	19,340
1992	179	12.71	317	72	78	107,903	17,914
1993	187	17.26	298	55	82	88,724	14,690
1994	172	9.43	276	46	83	65,777	10,890
1995	188	17.04	289	43	85	67,492	11,174
1996	179	7.27	295	43	85	64,541	10,715
1997	189	7	284	39	86	61,923	10,252
1998	194	16.05	278	39	86	64,171	10,624
1999	175	5.43	273	38	86	55,130	9,128
2000	174	6.9	278	37	87	54,413	9,034
2001	175	8.45	275	43	85	61,931	10,254
2002	169	4.23	287	44	86	61,493	10,181
2003	170	9.18	285	42	85	59,459	9,844
2004	174	12.69	291	43	85	62,028	10,298
2005	183	14.02	274	41	85	61,768	10,227
2006	170	6.16	287	35	88	49,581	8,209
2007	161	4.23	319	34	89	45,822	7,586
2008	162	11.11	277	32	88	43,802	7,272
2009	153	4.83	308	32	90	40,214	6,658
2010	157	8.06	323	37	88	49,361	8,172
2011	156	8.62	332	42	88	53,439	8,848
2012	148	13.67	354	37	90	46,039	7,622
2013	144	5.46	349	34	91	40,311	6,674

(In the table there is more scatter in the data before 1980 because monthly averages were calculated using only the two suspended solids values done on "complete analysis" days, rather than averaging all of the daily test results).

BOD – Biochemical Oxygen Demand



BOD Concentration mg/L

	Influent	Effluent	% Removal		Influent	Effluent	% Removal
1995 - Total	273	107	61%	2005 - Total	252	105	58%
Adjusted Total*	270	107	60%	System-wide Total	269	105	61%
Soluble	99	79	20%	Soluble	88	75	15%
1996 - Total	285	119	58%	2006 - Total	271	102	62%
Adjusted Total*	283	119	58%	System-wide Total	295	102	65%
Soluble	104	89	14%	Soluble	87	73	16%
1997 - Total	258	105	59%	2007 - Total	304	95	69%
Adjusted Total*	256	105	59%	System-wide Total	317	95	70%
Soluble	92	79	14%	Soluble	85	69	19%
1998 - Total	246	106	57%	2008 - Total	280	96	66%
Adjusted Total*	244	106	57%	System-wide Total	296	96	68%
Soluble	89	81	9%	Soluble	85	69	19%
1999- Total	247	102	59%	2009 - Total	292	100	66%
System-wide Total	251	102	59%	System-wide Total	310	100	68%
Soluble	96	79	18%	Soluble	76	68	11%
2000 - Total	237	94	60%	2010 - Total	287	104	64%
System-wide Total	248	94	62%	System-wide Total	312	104	66%
Soluble	84	69	18%	Soluble	72	70	3%
2001 - Total	254	94	63%	2011 - Total	285	108	62%
System-wide Total	270	94	65%	System-wide Total	312	108	66%
Soluble	84	58	31%	Soluble	77	73	5%
2002 - Total	266	94	65%	2012- Total	306	116	62%
System-wide Total	287	94	67%	System-wide Total	328	116	65%
Soluble	86	59	31%	Soluble	84	79	3%
2003 - Total	271	105	61%	2013- Total	313	115	63%
System-wide Total	292	105	64%	System-wide Total	328	115	65%
Soluble	86	70	19%	Soluble	84	81	4%
2004 - Total	255	101	60%				
System-wide Total	273	101	63%				
Soluble	80	70	12%				

H. Special Studies

Partial Disinfection System Status Report

Regulatory History:
On August 13, 2008 Addendum No. 2 to Order No. R9-2002-0025 (NPDES NO. CA0107409) was approved by the San Diego Regional Water Control Board. This addendum permitted the use of sodium hypochlorite (NaOCl) in a prototype partial disinfection system of Point Loma Ocean Outfall (PLOO) effluent.

On August 1, 2010 Order No. R9-2009-001 became effective requiring continuous monitoring of residual chlorine within 180 days.

The system:
Since sodium hypochlorite solution was already in use for odor control at the Point Loma facility, metering pumps and distribution piping were installed and connected to an existing bulk storage tank. Administration of concentrated hypochlorite solution is accomplished by a feed system that adds a flow-proportional dose of hypochlorite necessary to achieve a predetermined nominal concentration of hypochlorite in effluent. The hypochlorite solution is delivered by tanker truck in concentrate form (~12.5%) and added to the hypochlorite bulk storage. Hypochlorite solution is added to the feed tanks on demand. Hypochlorite and carrier water are injected into the effluent channel just after sedimentation tanks at the mid-point of the effluent channel.

Operations:
The first administration of hypochlorite solution began on September 3, 2008. Hypochlorite feed started at an initial rate calculated to obtain a nominal dose of 6 ppm hypochlorite in effluent. An 8.0 ppm dose rate was obtained on the September 4, 2008. Between September 17 and the 24th, feed rates were incrementally increased to a nominal dose of 11 ppm. On October 1, 2008 the dose was increased to 12ppm. During September and October 2008 the system was shutdown several times to make minor repairs and to make modifications in the feed system to allow for better mixing of the hypochlorite within the effluent. By the end of October 2008 the system was back in continuous operation and nominal chlorine feed rates was maintained at 12 ppm until February 2009. From February 25th, 2009 to April 4, 2012 the nominal feed rate target remained at 10 ppm. In April 2012 the target dose was gradually increased during the year from 10 ppm to 20 ppm. The dose was lowered to a nominal feed rate target of 18 ppm on 10/20/2012 and adjusted manually. In 2013 the dose rate continued to be manually adjusted daily according to flow, lowered during high flow and increased during low flow. January 2013 started with a flow rate around 18 mg/L and went as high as 50 mg/L in November. The dosage was then lowered below 20 mg/L due to one bulk sodium hypochlorite tank out for repairs.

Monitoring:

Monitoring in accordance with Addendum 2 was initiated on September 3, 2008, coincidental with the initial use of hypochlorite, and has continued. This monitoring consists of 4 daily grab samples taken during the work day at 2 hour intervals.

Pilot testing of and use of in-line continuous monitoring equipment for chlorine residual monitoring began in the winter of 2010. The first summary report of instrument output from the in-line continuous monitoring equipment is included in the monthly SMR.

Summary reports of the 2013 instantaneous maximum values of both the in-line continuous monitoring and the laboratory analysis of daily manual grabs are included in this annual report. There has been only occasional detectable total chlorine residual in the manual grabs of effluent. The in-line continuous monitoring equipment has not detected total chlorine residual in the effluent during this time period. An investigation continues to determine the efficacy of total residual chlorine continuous monitoring of advanced primary effluent. We are currently evaluating a 2013 report from Brown and Caldwell that was commissioned in 2012 to assist in finding a continuous monitor that will work with the plant's effluent characteristics.

No impacts on conventional monitoring parameters, e.g. BOD, pH, TSS and turbidity, have been observed.

II. Influent and Effluent Data Summary

The results of all analyses performed on the WWTP influent and effluent are summarized in tables with monthly and annual averages (and in some cases annual totals) calculated. Graphs of monthly averages are presented.

A. Mass Emissions
B. Discharge Limits
C. Influent and Effluent Data Summaries
D. Influent and Effluent Graphs
E. Daily Values of selected Parameters
F. Toxicity Bioassays

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A. Mass Emissions

Mass Emissions of Effluent Using 2013 Monthly Averages

DISCHARGE SPECIFICATIONS from NPDES Permit No. CA0107409/RWQCB Order No. R9-2009-0001 effective on August 1, 2010 with limits on pollutant discharges.

Constituent/Property	Benchmarks (mt/yr)	2013 Mass Emissions (mt/yr)	2013 Concentration	Units
Flow (MGD)			**143.8**	MGD
Total Suspended Solids	13,598	6,770	34	mg/L
BOD	-	22,897	115	mg/L
Arsenic	0.88	0.18	0.92	ug/L
Cadmium	1.4	0.00	0.00	ug/L
Chromium	14.2	0.26	1.3	ug/L
Copper	26	3.19	16	ug/L
Lead	14.2	0.00	0.0	ug/L
Mercury	0.19	0.002	0.0083	ug/L
Nickel	11.3	1.63	8.2	ug/L
Selenium	0.44	0.22	1.08	ug/L
Silver	2.8	0.02	0.10	ug/L
Zinc	18.3	5.57	28	ug/L
Cyanide	1.57	0.58	0.003	mg/L
Residual Chlorine	--	9.56	0.048	mg/L
Ammonia	8018	7,108	35.7	mg/L
Non-Chor. Phenols	2.57	4.30	21.6	ug/L
Chlorinated Phenols	1.73	0.04	0.2	ug/L
Endosulfan	0.006	0.0000	0	ng/L
Endrin	0.008	0.00	0	ng/L
hexachlorocyclohexanes *(HCH)	0.025	0.0000	0	ng/L
* (all as Lindane, the gamma isomer)				
Acrolein	17.6	0.00	0	ug/L
Antimony	56.6	0.06	0.3	ug/L
Bis(2-chloroethoxy) methane	1.5	0.00	0	ug/L
Bis(2-chloroisopropyl) ether	1.61	0.00	0	ug/L
Chlorobenzene	1.7	0.00	DNQ0.1	ug/L
Chromium (III)	--	--		
di-n-butyl phthalate	1.33	0.00	0	ug/L
dichlorobenzenes	2.8	0.00	0	ug/L
1,1-dichloroethylene	0.79	0.00	0	ug/L
Diethyl phthalate	6.23	1.02	5.1	ug/L
Dimethyl phthalate	1.59	0.00	0	ug/L
4,6-dinitro-2-methylphenol	6.8	0.00	0	ug/L
2,4-dinitrophenol	11.9	0.00	0	ug/L
Ethylbenzene	2.04	0.02	0.1	ug/L
Fluoranthene	0.62	0.00	0	ug/L
Hexachlorocyclopentadiene	B	0.00	0	ug/L

Constituent/Property	Benchmarks (mt/yr)	2013 Mass Emissions (mt/yr)	2013 Concentration	Units
Nitrobenzene	2.07	0.00	0	ug/L
Thallium	36.8	0.00	0.0	ug/L
Toluene	3.31	0.25	DNQ1.3	ug/L
1,1,2,2-tetrachloroethane	1.95	0.00	0	ug/L
Tributyltin	0.001	0.00	0	ug/L
1,1,1-trichloroethane	2.51	0.00	0	ug/L
1,1,2-trichloroethane	1.42	0.00	0	ug/L
Acrylonitrile	5.95	0.00	0	ug/L
Aldrin	0.006	0.00	0	ng/L
Benzene	1.25	0.00	0	ug/L
Benzidine	12.5	0.00	0	ug/L
Beryllium	1.42	0.000	0.000	ug/L
Bis(2-chloroethyl) ether	1.61	0.00	0	ug/L
Bis(2-ethylhexyl) phthalate	2.89	0.00	0.0	ug/L
Carbon Tetrachloride	0.79	0.00	0	ug/L
Chlordane	0.014	0.0000	0	ng/L
Chloroform	2.19	1.29	6.5	ug/L
DDT	0.043	0.00	0	ng/L
1,4-dichlorobenzene	1.25	0.06	DNQ0.1	ug/L
3,3-dichlorobenzidine	4.67	0.00	0	ug/L
1,2-dichloroethane	0.79	0.00	0	ug/L
Dichloromethane (Methylene Chloride)	13.7	0.25	DNQ1.2	ug/L
1,3-dichloropropene	1.42	0.00	0	ug/L
Dieldrin	0.011	0.00	0	ng/L
2,4-dinitrotoluene	1.61	0.00	0	ug/L
1,2-diphenylhydrazine	1.52	0.00	0	ug/L
Halomethanes	5.86	3.31	16.6	ug/L
Heptachlor	0.001	0.00000	0	ng/L
Heptachlor epoxide	0.024	0.00	0	ng/L
Hexachlorobenzene	0.54	0.00	0	ug/L
Hexachlorobutadiene	0.054	0.00	0	ug/L
Hexachloroethane	1.13	0.00	0	ug/L
Isophorone	0.71	0.00	0	ug/L
N-nitrosodimethylamine	0.76	0.00	0	ug/L
N-nitrosodiphenylamine	1.47	0.00	0	ug/L
PAHs	15.45	0.00	0	ug/L
PCBs	0.275	0.00	0	ng/L
TCDD equivalents	--	0.000000000	0.000	pg/L
Tetrachloroethylene	4	0.00	0	ug/L
Toxaphene	0.068	0.00	0	ng/L
Trichloroethylene	1.56	0.00	0	ug/L
2,4,6-trichlorophenol	0.96	0.00	0	ug/L
Vinyl Chloride	0.4	0.00	0	ug/L

DNQ= Detected but not quantified.

B. Discharge Limits

NPDES Permit No. CA0107409/RWQCB Order No. R9-2009-0001

DISCHARGE SPECIFICATIONS from NPDES Permit No. CA0107409/RWQCB Order No. R9-2009-0001 effective on August 1, 2010 with limits on pollutant discharges.
The discharge of waste through the Point Loma Ocean Outfall containing pollutants in excess of the following effluent limitations are prohibited:

NPDES Permit No. CA0107409/RWQCB Order No. R9-2009-0001 as modified by addendum 2 to the order

Constituent	Units	6-month Median	30-day Average	7-Day Average	Daily Maximum	Instantaneous Maximum
Biochemical Oxygen Demand BOD_5 @ 20°C	% removal[8]	The "Mean Annual Percent Removal" limit for BOD is 58%. There is no mass emission limit.				
Total Suspended Solids	% removal[1]		>80			
	mg/L		75[4]			
	metric tons/year		15,000[9]			
	metric tons/year		13,598[10]			
pH	pH units	Within the limits of 6.0 - 9.0 at all times.				
Grease & Oil	mg/L		25	40		75
	lb/day		42,743	68,388		128,228
Settleable Solids	mL/L		1.0	1.5		3.0
Turbidity	NTU		75	100		225
Acute Toxicity	TUa				6.42	
Arsenic	ug/L	1,000			5,900	16,000
Cadmium	ug/L	210			820	2,100
Chromium[11] (Hexavalent)	ug/L	410			1,600	4,100
Copper	ug/L	210			2,100	5,700
Lead	ug/L	410			1,600	4,100
Mercury	ug/L	8.1			33	82
Nickel	ug/L	1,000			4,100	10,000
Selenium	ug/L	3,100			12,000	31,000
Silver	ug/L	110			540	1,000
Zinc	ug/L	2,500			15,000	39,400
Cyanide	mg/L	0.2			0.8	2.1
Total Residual Chlorine(TRC)	mg/L	0.41			1.6	12
Ammonia	mg/L	120			490	1,200
Chronic Toxicity	TUc				205	
Phenolic Compounds (non- chlorinated)	ug/L	6,200			25,000	62,000
Chlorinated Phenolics	ug/L	210			820	2,100
Endosulfan	ng/L	1,800			3,700	5,500
Endrin	ng/L	410			820	1,200
		820			1,600	2,500

1 To be calculated on a system-wide basis, as provided In Addendum No.1 to Order No. R9-2002-0025.
2 To be achieved on permit effective date through December 31, 2013. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexico which, as a result of upset or shutdown, is treated at and discharged from Point loma WTP.
3 To be achieved on January 1, 2014. Applies only to TSS discharges from POTWs owned and operated by the Discharger and the Discharger's wastewater generated in the Metro System service area; does not apply to wastewater (and the resulting TSS) generated in Mexicowhich, as a result of upset or shutdown, is treated at and discharged from Point loma WTP.
4 Based on average monthly performance data (1990 through 1994) for the Point loma WTP provided by the Discharger for the 1995 301 (h) application.

LIMITATIONS FOR PROTECTION OF HUMAN HEALTH--NONCARCINOGENS		
Constituent	Units	Monthly Average (30-Day)
Acrolein	ug/L	45,000
Antimony	ug/L	250,000
Bis(2-chloroethoxy) methane	ug/L	900
Bis(2-chloroisopropyl) ether	ug/L	250,000
Chlorobenzene	ug/L	120,000
Chromium (III)[12]	ug/L	39,000,000
di-n-butyl phthalate	ug/L	720,000
dichlorobenzenes	ug/L	1,000,000
Diethyl phthalate	ug/L	6,800,000
Dimethyl phthalate	ug/L	170,000,000
4,6-dinitro-2-methylphenol	ug/L	45,000
2,4-dinitrophenol	ug/L	820
Ethylbenzene	ug/L	840,000
Fluoranthene	ug/L	3,100
Hexachlorocyclopentadiene	ug/L	12,000
Nitrobenzene	ug/L	1,000
Thallium	ug/L	400
Toluene	ug/L	17,000,000
Tributyltin	ug/L	0.29
1,1,1-trichloroethane	ug/L	110,000,000

LIMITATIONS FOR PROTECTION OF HUMAN HEALTH—CARCINOGENS		
Constituent	Units	Monthly Average (30-Day)
Acrylonitrile	ug/L	21
Aldrin	ng/L	4.5
Benzene	ug/L	1,200
Benzidine	ug/L	0.014
Beryllium	ug/L	6.8
Bis(2-chloroethyl)ether	ug/L	9.2
Bis(2-ethylhexyl)phthalate	ug/L	720
Carbon Tetrachloride	ug/L	180
Chlordane	ng/L	4.7
Chloroform	ug/L	27,000
DDT	ng/L	35
1,1,2,2-tetrachloroethane	ug/L	470
1,1-dichloroethylene	ug/L	200
1,1,2-trichloroethane	ug/L	1,900
1,4-dichlorobenzene	ug/L	3,700
3,3-dichlorobenzidine	ug/L	1.7
1,2-dichloroethane	ug/L	5,700
Dichloromethane	ug/L	92,000
1,3-dichloropropene	ug/L	1,800
Dieldrin	ng/L	8.20
2,4-dinitrotoluene	ug/L	530
1,2-diphenylhydrazine	ug/L	33
Halomethanes	ug/L	27,000
Heptachlor	ng/L	10
Hexachlorobenzene	ug/L	0.043
Hexachlorobutadiene	ug/L	2,900
Hexachloroethane	ug/L	510
Isophorone	ug/L	150,000
N-nitrosodimethylamine	ug/L	1,500
N-nitrosodiphenylamine	ug/L	510
PAHs	ug/L	1.80
PCBs	ng/L	3.90
TCDD equivalents	pg/L	0.8
Tetrachloroethylene	ug/L	410
Toxaphene	ng/L	430
Trichloroethylene	ug/L	5,500
Vinyl Chloride	ug/L	7,400

C. Influent and Effluent Data Summaries

The results of all analyses performed on the WWTP influent and effluent are summarized in tables with monthly and annual averages (and in some cases annual totals) calculated.

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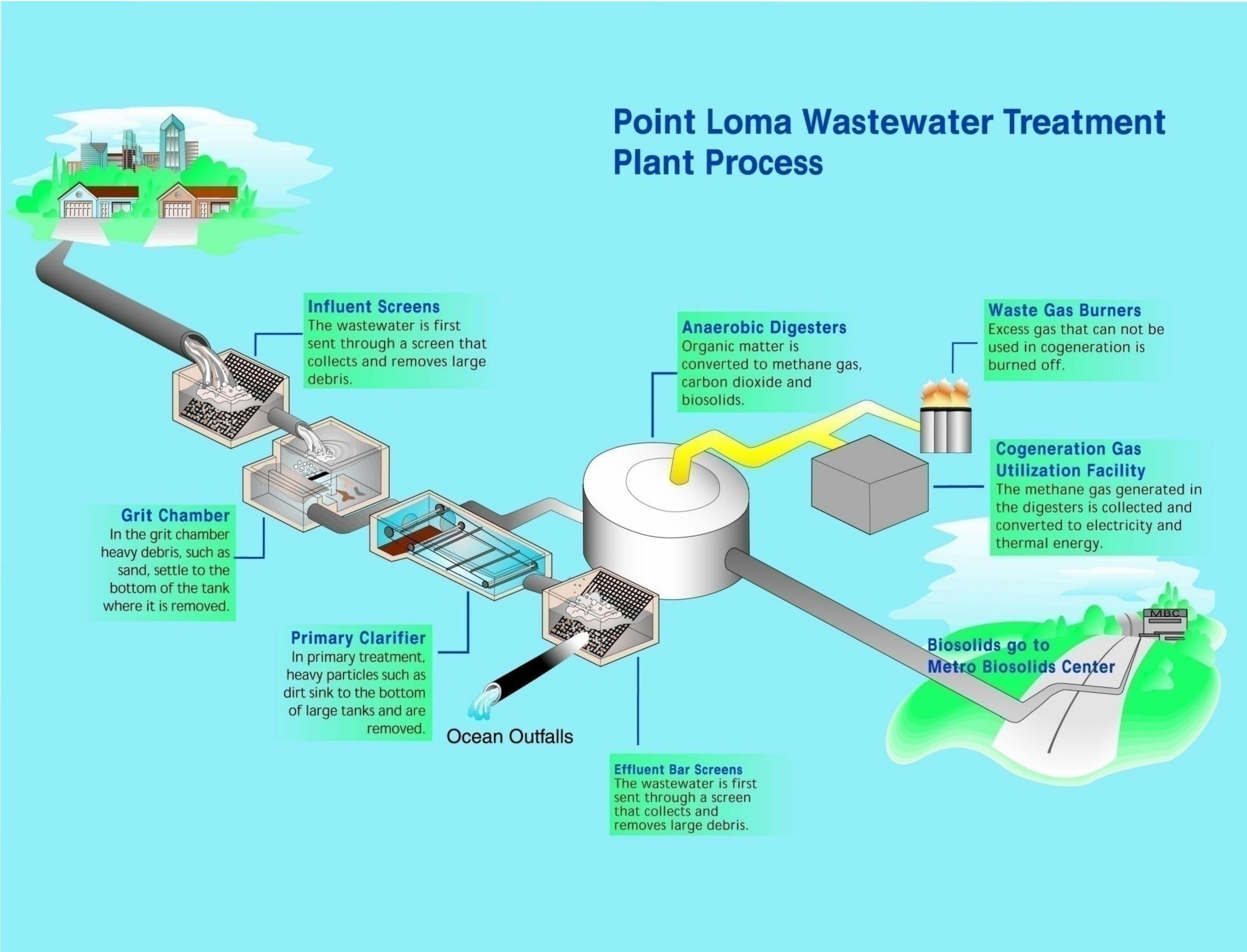

Point Loma Wastewater Treatment Plant Process
Influent Screens
The wastewater is first sent through a screen that collects and removes large debris.
Grit Chamber
In the grit chamber heavy debris, such as sand, settle to the bottom of the tank where it is removed.
Primary Clarifier
In primary treatment, heavy particles such as dirt sink to the bottom of large tanks and are removed.
Ocean Outfalls
Effluent Bar Screens
The wastewater is first sent through a screen that collects and removes large debris.
Anaerobic Digesters
Organic matter is converted to methane gas, carbon dioxide and biosolids.
Waste Gas Burners
Excess gas that can not be used in cogeneration is burned off.
Cogeneration Gas Utilization Facility
The methane gas generated in the digesters is collected and converted to electricity and thermal energy.
Biosolids go to Metro Biosolids Center
MBC

Point Loma Wastewater Treatment Plant

POINT LOMA WASTEWATER TREATMENT PLANT

SEWAGE ANNUAL

2013 Annual

Biochemical Oxygen Demand Concentration
(24-hour composite)

	Flow	Daily Influent Value (mg/L)	Daily Influent Value (lbs/Day)	Daily Effluent Value (mg/L)	Daily Effluent Value (lbs/Day)	Percent Removal BOD (%)
JANUARY -2013	155.4	286	370666	118	152932	58.7
FEBRUARY -2013	150.1	294	368039	122	152724	58.5
MARCH -2013	149.1	304	378022	117	145489	61.5
APRIL -2013	143.4	323	386294	119	142319	63.2
MAY -2013	143.6	317	379647	115	137727	63.7
JUNE -2013	139.9	341	397867	124	144679	63.6
JULY -2013	143.9	329	394841	134	160817	59.3
AUGUST -2013	139.2	321	372658	113	131185	64.8
SEPTEMBER-2013	138.3	298	343720	99	114189	66.8
OCTOBER -2013	139.6	313	364415	105	122248	66.5
NOVEMBER -2013	141.8	308	364244	108	127722	64.9
DECEMBER -2013	141.0	321	377477	111	130529	65.4
Average	143.8	313	374824	115	138547	63.1

Total Suspended Solids Concentration
(24-hour composite)

	Flow	Daily Influent TSS (mg/L)	Daily Influent VSS (mg/L)	Percent VSS of TSS (%)	Daily Influent Value (lbs/Day)	Daily Effluent TSS (mg/L)	Daily Effluent VSS (mg/L)	Percent VSS of TSS (%)	Daily Effluent Value (lbs/Day)
JANUARY -2013	155.4	313	274	87.5	405659	35	26	74.3	45361
FEBRUARY -2013	150.1	320	277	86.6	400587	39	30	76.9	48822
MARCH -2013	149.1	350	302	86.3	435223	37	28	75.7	46009
APRIL -2013	143.4	360	313	86.9	430544	36	28	77.8	43054
MAY -2013	143.6	379	329	86.8	453899	38	30	78.9	45510
JUNE -2013	139.9	384	329	85.7	448038	38	31	81.6	44337
JULY -2013	143.9	387	334	86.3	464449	50	42	84.0	60006
AUGUST -2013	139.2	346	300	86.7	401681	27	22	81.5	31345
SEPTEMBER-2013	138.3	340	296	87.1	392163	24	20	83.3	27682
OCTOBER -2013	139.6	333	290	87.1	387700	25	21	84.0	29107
NOVEMBER -2013	141.8	337	292	86.6	398540	26	21	80.8	30748
DECEMBER -2013	141.0	340	301	88.5	399820	27	22	81.5	31750
Average	143.8	349	303		418192	34	27		40311

	Percent Removal TSS (%)	Percent Removal VSS (%)
JANUARY -2013	88.8	90.5
FEBRUARY -2013	87.8	89.2
MARCH -2013	89.4	90.7
APRIL -2013	90.0	91.1
MAY -2013	90.0	90.9
JUNE -2013	90.1	90.6
JULY -2013	87.1	87.4
AUGUST -2013	92.2	92.7
SEPTEMBER-2013	92.9	93.2
OCTOBER -2013	92.5	92.8
NOVEMBER -2013	92.3	92.8
DECEMBER -2013	92.1	92.7
Average	90.4	91.2

Annual Mass Emissions are calculated from monthly averages of flow, where as monthly Report average mass emissions are calculated from average daily mass emissions.

POINT LOMA WASTEWATER TREATMENT PLANT

Systemwide BOD Removals

2013 Annual

MONTH	Pt. Loma Influent Mass Emissions	NCWRP PS64 Mass Emissions	NCWRP Penasquitos Mass Emissions	MBC Return Mass Emissions	NCWRP Return Mass Emissions	Total Return Mass Emissions	Pt. Loma Effluent Mass Emissions	System wide Adjusted BOD Removals	Pt. Loma Daily BOD Removals	Pt. Loma Daily BOD Eff Conc.
13-01	369,959	18,743	15,651	4,551	782	5,333	152,751	61.7	58.7	118
13-02	367,544	19,910	15,991	4,483	2,863	7,346	152,848	61.4	58.4	122
13-03	377,406	19,607	14,738	4,818	1,362	6,179	145,854	63.9	61.2	117
13-04	386,587	21,881	17,135	6,052	889	6,942	141,849	66.0	63.2	119
13-05	379,474	22,153	16,998	6,985	4,840	11,825	137,851	66.0	63.6	115
13-06	398,105	22,549	17,297	7,508	15,778	23,286	144,398	65.0	63.6	124
13-07	394,371	21,719	12,804	10,126	4,424	14,550	161,040	61.0	59.0	134
13-08	372,712	21,426	10,894	5,395	3,895	9,290	130,832	66.7	64.7	113
13-09	344,280	20,287	9,514	6,064	4,103	10,168	114,782	68.5	66.6	99
13-10	364,565	20,854	9,822	4,489	1,353	5,842	122,339	68.5	66.3	105
13-11	363,810	20,693	10,884	5,026	680	5,706	127,200	67.3	65.0	108
13-12	377,367	20,506	10,671	4,084	744	4,828	130,354	67.6	65.4	111
avg	374,682	20,861	13,533	5,798	3,476	9,275	138,508	65.3	63.0	115

Systemwide TSS Removals

2013 Annual

MONTH	Pt. Loma Influent Mass Emissions Lbs/day	NCWRP PS64 Mass Emissions Lbs/day	NCWRP Penasquitos Mass Emissions Lbs/day	MBC Return Mass Emissions Lbs/day	NCWRP Return Mass Emissions Lbs/day	Total Return Mass Emissions Lbs/day	Pt. Loma Effluent Mass Emissions Lbs/day	System wide Adjusted TSS Removals	Pt. Loma Daily TSS Removals	Pt. Loma Daily TSS Eff Conc. mg/L
13-01	404,361	18,081	19,197	10,755	2,936	13,691	45,209	89.4	88.8	35
13-02	399,667	20,384	18,654	10,418	3,500	13,918	49,066	88.4	87.6	39
13-03	434,878	19,327	18,746	11,053	3,177	14,230	45,534	90.0	89.4	37
13-04	430,912	20,038	19,172	20,523	3,243	23,765	42,543	90.4	90.1	36
13-05	453,960	21,152	22,349	20,935	3,825	24,760	45,317	90.3	89.9	38
13-06	446,944	23,198	20,780	33,116	5,005	38,121	44,564	90.0	89.9	38
13-07	464,781	21,167	16,299	44,951	3,061	48,012	60,514	86.6	86.8	50
13-08	401,658	20,356	13,630	14,843	5,071	19,914	31,628	92.3	92.1	27
13-09	392,269	20,880	13,214	16,910	7,010	23,920	27,889	93.0	92.9	24
13-10	387,330	21,633	13,218	11,740	1,357	13,097	29,353	92.8	92.4	25
13-11	398,704	21,282	14,750	15,914	1,446	17,360	30,041	92.8	92.4	26
13-12	399,334	19,335	14,068	10,107	1,500	11,607	31,864	92.4	92.0	27
avg	417,900	20,569	17,006	18,439	3,428	21,866	40,294	90.7	90.4	34

Annual mass emissions are calculated from monthly averages of flow and TSS, whereas Monthly Report average mass emissions are calculated from average daily mass emissions.

POINT LOMA WASTEWATER TREATMENT PLANT

2013 Annual

Effluent to Ocean Outfall
(PLE)

Analyte:	pH	Settleable Solids	Biochemical Oxygen Demand	Hexane Extractable Material	Temperature	Floating Particulates	Turbidity
Units:		(ml/L)	(mg/L)	(mg/L)	(C)	(mg/L)	(NTU)
JANUARY -2013	7.31	0.2	118	10.0	23.1	ND	37
FEBRUARY -2013	7.32	0.2	122	10.2	22.6	ND	41
MARCH -2013	7.28	0.3	117	10.6	23.1	ND	38
APRIL -2013	7.28	0.2	119	10.2	24.3	2.60	38
MAY -2013	7.30	0.1	115	9.9	25.0	ND	43
JUNE -2013	7.27	0.3	124	11.3	26.4	<1.40	47
JULY -2013	7.19	0.5	134	14.8	27.5	<1.40	58
AUGUST -2013	7.21	0.1	113	11.6	27.7	<1.40	44
SEPTEMBER-2013	7.24	0.1	99	8.9	28.2	ND	38
OCTOBER -2013	7.25	0.1	105	9.1	27.3	ND	36
NOVEMBER -2013	7.23	ND	108	9.7	26.3	ND	35
DECEMBER -2013	7.26	0.1	111	11.7	24.9	ND	34
Average	7.26	0.2	115	10.7	25.5	0.22	41

Influent to Plant
(PLR)

Analyte:	pH	Settleable Solids	Biochemical Oxygen Demand	Hexane Extractable Material	Temperature	Floating Particulates	Turbidity
Units:		(ml/L)	(mg/L)	(mg/L)	(C)	(mg/L)	(NTU)
JANUARY -2013	7.45	14.7	286	40.0	22.7	<1.40	130
FEBRUARY -2013	7.46	17.9	294	42.9	22.7	<1.40	133
MARCH -2013	7.47	18.5	304	43.0	23.0	<1.40	134
APRIL -2013	7.47	20.9	323	47.5	24.0	<1.40	138
MAY -2013	7.48	20.8	317	50.6	24.8	<1.40	139
JUNE -2013	7.43	22.4	341	54.4	26.4	<1.40	134
JULY -2013	7.44	23.7	329	55.4	27.2	<1.40	134
AUGUST -2013	7.36	20.9	321	55.2	27.6	<1.40	132
SEPTEMBER-2013	7.43	20.1	298	49.6	28.0	<1.40	130
OCTOBER -2013	7.39	17.4	313	49.8	27.1	<1.40	127
NOVEMBER -2013	7.35	16.7	308	50.3	26.1	<1.40	131
DECEMBER -2013	7.36	17.9	321	55.8	24.6	<1.40	134
Average	7.42	19.3	313	49.5	25.4	<1.40	133

ND=not detected; NS=not sampled; NA=not analyzed.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

2013 Annual

Analyte:	Antimony	Antimony	Arsenic	Arsenic	Beryllium	Beryllium	Cadmium	Cadmium
MDL	2.9	2.9	.4	.4	.022	.022	.53	.53
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
JANUARY -2013	ND	ND	0.88	0.73	ND	ND	<0.53	ND
FEBRUARY -2013	ND	ND	1.09	0.72	ND	ND	ND	ND
MARCH -2013	ND	ND	1.24	0.81	ND	ND	ND	ND
APRIL -2013	<2.9	ND	1.16	0.94	ND	ND	<0.53	ND
MAY -2013	<2.9	4.0	1.47	0.97	ND	ND	<0.53	<0.53
JUNE -2013	ND	ND	1.45	0.94	ND	ND	0.62	ND
JULY -2013	ND	ND	1.71	1.12	ND	ND	<0.53	ND
AUGUST -2013	ND	ND	1.42	0.97	ND	ND	ND	ND
SEPTEMBER-2013	ND	ND	1.29	1.06	ND	ND	0.53	ND
OCTOBER -2013	ND	ND	1.53	1.09	<0.022	ND	<0.53	ND
NOVEMBER -2013	ND	ND	1.45	0.88	ND	ND	ND	ND
DECEMBER -2013	ND	ND	1.12	0.84	ND	ND	ND	ND
AVERAGE	0.0	0.3	1.32	0.92	0.000	ND	0.10	0.00

Analyte:	Chromium	Chromium	Copper	Copper	Iron	Iron	Lead	Lead
MDL	1.2	1.2	2	2	37	37	2	2
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
JANUARY -2013	5.1	<1.2	96.2	23.4	6880	2900	2.6	ND
FEBRUARY -2013	4.9	1.3	108.0	22.9	8400	3220	4.0	ND
MARCH -2013	18.7	ND	116.0	18.2	8860	2810	4.2	<2.0
APRIL -2013	14.9	<1.2	175.0	15.7	11100	2630	4.3	ND
MAY -2013	6.4	<1.2	138.0	18.9	8910	3030	4.3	<2.0
JUNE -2013	8.8	3.7	120.0	16.3	8910	2460	7.0	<2.0
JULY -2013	6.0	<1.2	148.0	20.5	11200	3140	5.7	ND
AUGUST -2013	3.9	1.3	116.0	15.3	8850	2430	3.0	<2.0
SEPTEMBER-2013	5.8	2.0	136.0	11.3	9040	2030	4.8	ND
OCTOBER -2013	5.7	<1.2	117.0	10.4	8490	2220	6.0	<2.0
NOVEMBER -2013	9.8	6.7	120.0	8.8	7650	2250	5.5	<2.0
DECEMBER -2013	4.5	<1.2	279.0	11.1	7570	2560	3.3	<2.0
AVERAGE	7.9	1.3	139.1	16.1	8822	2640	4.6	0.0

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

2013 Annual

Analyte:	Nickel	Nickel	Selenium	Selenium	Silver	Silver	Thallium	Thallium
MDL	.53	.53	.28	.28	.4	.4	3.9	3.9
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
JANUARY -2013	8.1	6.0	0.81	0.87	0.8	<0.4	ND	ND
FEBRUARY -2013	8.5	5.1	1.42	0.81	0.7	ND	<3.9	<3.9
MARCH -2013	10.2	5.4	1.61	1.01	0.8	ND	<3.9	<3.9
APRIL -2013	36.0	6.5	1.70	1.41	1.1	ND	ND	ND
MAY -2013	13.7	9.1	2.05	1.50	0.6	ND	ND	ND
JUNE -2013	17.0	11.5	2.36	1.35	0.5	ND	<3.9	ND
JULY -2013	10.9	6.9	1.75	1.09	0.4	ND	<3.9	<3.9
AUGUST -2013	9.2	6.8	1.42	0.93	0.7	ND	ND	ND
SEPTEMBER-2013	18.5	13.2	1.16	0.92	1.0	<0.4	ND	<3.9
OCTOBER -2013	9.4	5.8	1.60	1.00	1.8	0.4	ND	ND
NOVEMBER -2013	18.9	14.1	1.74	1.02	1.9	0.5	ND	<3.9
DECEMBER -2013	22.4	7.4	1.53	1.00	1.1	0.5	ND	<3.9
AVERAGE	15.2	8.2	1.60	1.08	1.0	0.1	0.0	0.0

Analyte:	Zinc	Zinc	Mercury	Mercury
MDL	2.5	2.5	.5	.5
Units	UG/L	UG/L	NG/L	NG/L
Source:	PLR	PLE	PLR	PLE
JANUARY -2013	149	25	72.5	6.9
FEBRUARY -2013	192	32	150	7.8
MARCH -2013	202	32	151.9*	5.2*
APRIL -2013	269	22	117.3^	9.8^
MAY -2013	265	58	121.8*	10.4*
JUNE -2013	224	27	119.1	10.3
JULY -2013	255	36	95.7	10.5
AUGUST -2013	203	27	196.8	6.6
SEPTEMBER-2013	203	23	164.8	5.6
OCTOBER -2013	193	23	101*	4.2*
NOVEMBER -2013	174	16	62.4*	8.5*
DECEMBER -2013	146	20	73.9	10.2
AVERAGE	206	28	124.7	8.3

* = The % RSD and %RSD duplicate of 33% and 31% respectively in this batch were above the maximum allowed acceptance range of 25%. Value was not used in average.

^ = The percent recovery of 68 for the spike samples in this batch are below the acceptance range of 71-125%. Value was not used in average.

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Ammonia-Nitrogen and Total Cyanides

2013 Annual

Analyte:	Ammonia-N	Ammonia-N	Cyanide, Total	Cyanide, Total
MDL/Units:	.3 MG/L	.3 MG/L	.002 MG/L	.002 MG/L
Source:	PLR	PLE	PLR	PLE
Limit:		123		0.200
JANUARY -2013	36.2	34.5	0.0022	0.0032
FEBRUARY -2013	35.8	33.9	<0.0020	0.0030
MARCH -2013	37.2	36.2	0.0022	0.0030
APRIL -2013	38.0	38.4	<0.0020	0.0030
MAY -2013	36.2	36.2	<0.0020	0.0028
JUNE -2013	39.9	39.4	<0.0020	0.0028
JULY -2013	37.6	35.8	<0.0020	0.0024
AUGUST -2013	37.4	36.1	ND	0.0030
SEPTEMBER-2013	36.4	34.5	<0.0020	0.0031
OCTOBER -2013	37.1	33.8	<0.0020	0.0022
NOVEMBER -2013	35.7	34.1	<0.0020	0.0035
DECEMBER -2013	36.2	35.6	ND	0.0023
Average:	37.0	35.7	0.0004	0.0029

Analyte:	Chlorine Residual, Total
MDL/Units:	.03 MG/L
Source:	PLE
Limit:	
JANUARY -2013	0.129
FEBRUARY -2013	0.244
MARCH -2013	0.090
APRIL -2013	<0.030
MAY -2013	<0.030
JUNE -2013	<0.030
JULY -2013	<0.030
AUGUST -2013	<0.030
SEPTEMBER-2013	<0.030
OCTOBER -2013	0.044
NOVEMBER -2013	0.063
DECEMBER -2013	<0.030
Average:	0.048

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Radioactivity

2013 Annual

Analyzed by: TestAmerica Laboratories Richland

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLR	JANUARY -2013	4.3±8.1	34.3±9.4
PLR	FEBRUARY -2013	1.2±7.3	34.0±8.8
PLR	MARCH -2013	0.1±7.1	22.4±9.3
PLR	APRIL -2013	0.4±8.3	23.7±8.9
PLR	MAY -2013	4.3±10.5	31.0±8.8
PLR	JUNE -2013	4.8±5.6	32.4±12.0
PLR	JULY -2013	7.2±10.1	32.9±11.5
PLR	AUGUST -2013	2.0±8.6	30.6±10.1
PLR	SEPTEMBER-2013	1.6±7.2	23.8±8.4
PLR	OCTOBER -2013	7.1±8.6	33.4±8.4
PLR	NOVEMBER -2013	3.4±7.8	31.0±10.0
PLR	DECEMBER -2013	6.6±8.4	34.1±10.5
AVERAGE		3.6±8.1	30.3±9.7

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLE	JANUARY -2013	9.8±7.2	37.4±8.5
PLE	FEBRUARY -2013	1.9±7.6	25.8±7.6
PLE	MARCH -2013	-3.0±6.2	25.8±8.8
PLE	APRIL -2013	4.8±7.5	31.1±8.5
PLE	MAY -2013	-1.6±10.0	33.5±14.0
PLE	JUNE -2013	3.9±7.9	28.0±12.0
PLE	JULY -2013	6.3±8.0	33.9±8.5
PLE	AUGUST -2013	-3.1±8.6	24.9±9.1
PLE	SEPTEMBER-2013	4.4±7.0	31.6±9.2
PLE	OCTOBER -2013	-2.4±6.9	31.9±9.3
PLE	NOVEMBER -2013	7.1±8.4	33.5±11.0
PLE	DECEMBER -2013	5.5±7.4	37.1±8.2
AVERAGE		2.8±7.7	31.2±9.6

ND= not detected
NA= not analyzed
NS= not sampled

Units in picocuries/liter (pCi/L)

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Chlorinated Pesticide Analysis

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Average
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	<1.0	ND	ND	ND	ND	ND	ND	0
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND	ND	<20	ND	ND	ND	ND	0
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	15	NG/L	<2	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	ND	0
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND	ND	<1	ND	ND	ND	ND	ND	ND	0
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	<2	<2	ND	ND	ND	ND	ND	0
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	0
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	3	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Cis Nonachlor	5	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	ND	<8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	20	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
DDT and derivatives	100	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlordane + related cmpds.	3	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	1300	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	15	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	15	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	1300	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Chlorinated Pesticide Analysis

2013 Annual

Source Month Analyte	MDL	Units	PLR JAN Avg	PLR FEB Avg	PLR MAR Avg	PLR APR Avg	PLR MAY Avg	PLR JUN Avg	PLR JUL Avg	PLR AUG Avg	PLR SEP Avg	PLR OCT Avg	PLR NOV Avg	PLR DEC Avg	PLR Average
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND	ND	<20	ND	ND	ND	ND	0
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	15	NG/L	<2	DNQ2	<2	<2	<2	DNQ2	<2	ND	ND	<2	DNQ3	DNQ3	DNQ1
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DNQ1	0
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	0
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	0
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	3	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Cis Nonachlor	5	NG/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	ND	<8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	20	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
DDT and derivatives	100	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlordane + related cmpds.	3	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	1300	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	15	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	15	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	1300	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645663	P649601	P654931	P658831	P661078	P664851
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.05	DNQ0.05	ND	DNQ0.12	ND	0.55
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	<0.03	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667691	P671076	P675373	P677625	P683396	P686942
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.19	DNQ0.13	ND	ND	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645666	P649607	P654934	P658834	P661084	P664854
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.04	ND	ND	ND	ND	0.50
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	DNQ0.1	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667694	P671082	P675376	P677631	P683399	P686945
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.15	DNQ0.13	ND	DNQ0.04	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	DNQ0.1
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	DNQ0.03	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE MONTHLY - Tributyl Tin analysis

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units													Average
Dibutyltin	7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monobutyltin	16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tributyltin	2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Source			PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units													Average
Dibutyltin	7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monobutyltin	16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tributyltin	2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Acid Extractables

2013 Annual

Source Month Analyte	MDL	Units	PLE JAN Avg	PLE FEB Avg	PLE MAR Avg	PLE APR Avg	PLE MAY Avg	PLE JUN Avg	PLE JUL Avg	PLE AUG Avg	PLE SEP Avg	PLE OCT Avg	PLE NOV Avg	PLE DEC Avg	Average
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	0.2
Phenol	1.76	UG/L	21.1	20.2	21.3	21.6	23.9	22.3	19.8	23.1	20.8	21.7	22.4	21.3	21.6
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.2
Total Non-Chlorinated Phenols	2.16	UG/L	21.1	20.2	21.3	21.6	23.9	22.3	19.8	23.1	20.8	21.7	22.4	21.3	21.6
Phenols	2.16	UG/L	21.1	20.2	21.3	21.6	23.9	22.3	19.8	24.9	20.8	21.7	22.4	21.3	21.8

Additional Analytes Determined;

Analyte	MDL	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	54.9	51.3	48.1	48.4	51.8	48.9	44.1	54.0	44.7	53.0	60.8	55.0	51.3
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Source Month Analyte	MDL	Units	PLR JAN Avg	PLR FEB Avg	PLR MAR Avg	PLR APR Avg	PLR MAY Avg	PLR JUN Avg	PLR JUL Avg	PLR AUG Avg	PLR SEP Avg	PLR OCT Avg	PLR NOV Avg	PLR DEC Avg	Average
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	1.76	UG/L	21.4	20.9	24.4	24.9	23.6	24.5	22.8	24.8	27.4	24.9	25.0	23.7	24.0
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	21.4	20.9	24.4	24.9	23.6	24.5	22.8	24.8	27.4	24.9	25.0	23.7	24.0
Phenols	2.16	UG/L	21.4	20.9	24.4	24.9	23.6	24.5	22.8	24.8	27.4	24.9	25.0	23.7	24.0

Additional Analytes Determined;

Analyte	MDL	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	62.5	50.2	53.0	52.9	50.4	47.0	44.1	50.1	52.8	52.9	58.1	64.3	53.2
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Base/Neutrals

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Average
Acenaphthene	1.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	1.77	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	1.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzidine	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	1.35	UG/L	ND*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	1.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1.25	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	1.09	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	1.38	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	1.57	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	1.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	2.84	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	3.96	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	8.96	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	3.05	UG/L	7.9	5.2	4.9	4.1	4.0	5.2	5.4	5.0	5.4	4.5	5.1	4.2	5.1
Dimethyl phthalate	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	2.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	1.36	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.53	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	1.37	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	1.33	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	1.61	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1.48	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1.64	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.25	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	1.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	1.53	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	1.65	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	1.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodimethylamine	1.27	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodi-n-propylamine	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine	3.48	UG/L	ND	ND	ND	ND	ND	ND#	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	1.34	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	1.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Polynuc. Aromatic Hydrocarbons	1.77	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Base/Neutral Compounds	8.96	UG/L	7.9	5.2	4.9	4.1	4.0	5.2	5.4	5.0	5.4	4.5	5.1	4.2	5.1

Additional Analytes Determined;

Analyte	MDL	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
Benzo[e]pyrene	1.44	UG/L	ND*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	2.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	2.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylphenanthrene	1.46	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	2.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	1.41	UG/L	ND^	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

* = The value of 103ug/L and 148ug/L for the spike and check sample respectively in this batch were above the acceptance range of 45.8-90.8ug/L for the spike and 89.2ug/L-143ug/L for the check.

^ = The value of 98.6ug/L and 137ug/L for the spike and check sample respectively in this batch were above the acceptance range of 44.1-87.3ug/L for the spike and 82.2ug/L-135ug/L for the check.

#= The Result value of 67.5UG/L for the check was below acceptance range of 72-108UG/L and the value of 119UG/L for the spike was above the acceptance range of 78.3-110 therefore data was not included in summation.

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Base/Neutrals

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Average
Acenaphthene	1.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	1.77	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	1.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzidine	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	1.35	UG/L	ND*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	1.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1.25	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	1.09	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	1.38	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	1.57	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	1.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	2.84	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7	0.3
Di-n-butyl phthalate	3.96	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	8.96	UG/L	ND	ND	12.3	ND	29.7	9.63	ND	ND	12.1	11.1	16.8	30.0	10.1
Diethyl phthalate	3.05	UG/L	3.4	4.7	4.1	4.5	3.6	4.3	3.8	4.1	5.5	4.2	5.1	3.5	4.2
Dimethyl phthalate	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	2.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	1.36	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.53	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	1.37	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	1.33	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	1.61	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1.48	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1.64	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.25	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	1.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	1.53	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	1.65	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	1.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodimethylamine	1.27	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodi-n-propylamine	1.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine	3.48	UG/L	ND	ND	ND	ND	ND	ND#	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	1.34	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	1.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Polynuc. Aromatic Hydrocarbons	1.77	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Base/Neutral Compounds	8.96	UG/L	3.4	4.7	16.4	4.5	33.3	13.9	3.8	4.1	17.6	15.3	21.9	37.2	14.7

Additional Analytes Determined;

Benzo[e]pyrene	1.44	UG/L	ND*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	2.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	2.16	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylphenanthrene	1.46	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	2.14	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	1.41	UG/L	ND^	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

* = The value of 103ug/L and 148ug/L for the spike and check sample respectively in this batch were above the acceptance range of 45.8-90.8ug/L for the spike and 89.2ug/L-143ug/L for the check.

^ = The value of 98.6ug/L and 137ug/L for the spike and check sample respectively in this batch were above the acceptance range of 44.1-87.3ug/L for the spike and 82.2ug/L-135ug/L for the check.

#= The Result value of 67.5UG/L for the check was below acceptance range of 72-108UG/L and the value of 119UG/L for the spike was above the acceptance range of 78.3-110 therefore data was not included in summation.

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Purgeables

2013 Annual

Source Month Analyte	MDL	Units	PLE JAN Avg	PLE FEB Avg	PLE MAR Avg	PLE APR Avg	PLE MAY Avg	PLE JUN Avg	PLE JUL Avg	PLE AUG Avg	PLE SEP Avg	PLE OCT Avg	PLE NOV Avg	PLE DEC Avg	PLE Average
Acrolein	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	.5	UG/L	1.3	ND	1.1	ND	DNQ0.5	ND	ND	DNQ0.5	ND	DNQ0.9	DNQ0.8	ND	DNQ0.4
Bromoform	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	.7	UG/L	1.5	ND	ND	ND	ND	ND	0.9	1.7	1.2	2.3	1.8	1.5	0.9
Carbon tetrachloride	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	.4	UG/L	<0.4	ND	ND	ND	ND	ND	ND	ND	ND	DNQ0.7	DNQ0.4	ND	DNQ0.1
Chloroethane	.9	UG/L	2.0	ND	ND	ND	ND	ND	1.6	2.5	2.3	4.5	2.2	3.1	1.5
Chloroform	.2	UG/L	6.7	5.6	6.2	3.2	5.9	4.8	5.5	7.8	5.8	10.8	6.8	9.0	6.5
Chloromethane	.5	UG/L	20.0	4.6	5.6	1.9	4.9	5.0	12.4	19.9	20.3	45.0	18.2	30.2	15.7
Dibromochloromethane	.6	UG/L	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
1,2-Dichlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	.4	UG/L	ND	ND	DNQ0.6	ND	ND	ND	ND	ND	DNQ0.5	<0.4	ND	ND	0.1
Dichlorodifluoromethane	.66	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	0.1
Methylene chloride	.3	UG/L	0.9	1.4	ND	DNQ1.0	1.5	DNQ0.7	DNQ1.0	2.3	1.7	1.5	1.2	DNQ0.6	DNQ1.2
1,1,2,2-Tetrachloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	.4	UG/L	1.1	DNQ1.0	1.5	DNQ1.0	DNQ0.9	DNQ0.8	DNQ0.5	DNQ0.9	1.7	1.4	2.5	2.1	DNQ1.3
1,1,1-Trichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	.7	UG/L	21.5	4.6	5.6	1.9	4.9	5.0	13.3	21.6	21.5	47.3	20.0	31.7	16.6
Dichlorobenzenes	.5	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Chloromethanes	.5	UG/L	27.6	11.6	11.8	5.1	12.3	9.8	17.9	30.0	27.8	57.3	26.2	39.2	22.2
Purgeable Compounds	1.3	UG/L	34.5	11.6	14.4	5.1	12.3	9.8	20.4	34.2	33.0	65.5	32.7	47.4	24.9

Additional Analytes Determined;

Analyte	MDL	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
Acetone	4.5	UG/L	3140	612	334	433	558	611	492	500	333	609	447	1150	768
Allyl chloride	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl chloride	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	DNQ1.8	DNQ1.2	ND	DNQ0.3
2-Butanone	6.3	UG/L	12.1	DNQ9.3	DNQ6.8	DNQ8.6	DNQ6.5	ND	10.3	DNQ8.9	<6.3	ND	ND	ND	5.2
Carbon disulfide	.6	UG/L	2.5	2.1	1.5	2.0	1.7	2.3	2.5	3.1	3.0	3.5	2.6	3.6	2.5
Chloroprene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	.4	UG/L	0.9	DNQ1.0	DNQ0.9	DNQ0.9	DNQ0.5	DNQ0.5	DNQ0.7	DNQ0.4	DNQ0.5	DNQ0.4	DNQ0.4	ND	DNQ0.6
2-Nitropropane	12	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ortho-xylene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
meta,para xylenes	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Purgeables

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Average
Acrolein	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	.9	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	.2	UG/L	2.6	2.1	2.1	2.2	2.1	1.7	7.4	2.3	2.6	2.1	2.4	2.8	2.7
Chloromethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	.4	UG/L	ND	ND	1.1	DNQ0.6	ND	ND	ND	ND	ND	ND	ND	ND	0.1
Dichlorodifluoromethane	.66	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	.3	UG/L	ND	DNQ0.5	DNQ0.3	DNQ0.6	DNQ0.8	ND	ND	DNQ0.8	ND	ND	DNQ0.8	DNQ0.3	DNQ0.3
Methylene chloride	.3	UG/L	0.4	ND	ND	ND	1.2	DNQ0.7	ND	1.1	1.3	1.1	2.5	ND	0.7
1,1,2,2-Tetrachloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	.4	UG/L	0.7	DNQ0.8	1.3	DNQ0.9	DNQ0.6	DNQ0.5	ND	DNQ0.7	DNQ0.8	DNQ0.5	DNQ0.6	DNQ0.9	DNQ0.7
1,1,1-Trichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	.7	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dichlorobenzenes	.5	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Chloromethanes	.5	UG/L	3.0	2.1	2.1	2.2	3.3	1.7	7.4	2.3	3.9	3.2	4.1	2.8	2.7
Purgeable Compounds	1.3	UG/L	3.7	2.1	4.5	2.2	3.3	1.7	7.4	3.4	3.9	3.2	4.9	2.8	3.6

Additional Analytes Determined;

Analyte	MDL	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
Acetone	4.5	UG/L	2980	353	310	492	534	543	582	1690	252	430	704	4700	1131
Allyl chloride	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl chloride	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	6.3	UG/L	11.8	DNQ6.4	ND	DNQ7.0	10.8	ND	11.7	DNQ6.8	ND	ND	ND	ND	DNQ4.5
Carbon disulfide	.6	UG/L	1.9	1.1	1.0	1.3	1.4	1.8	1.7	1.7	1.6	1.9	2.2	1.9	1.6
Chloroprene	.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	.4	UG/L	1.1	2.4	1.1	1.3	DNQ0.9	DNQ0.5	ND	DNQ1.0	DNQ0.5	DNQ0.7	ND	ND	DNQ0.8
2-Nitropropane	12	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ortho-xylene	.4	UG/L	ND	ND	ND	ND	DNQ0.5	ND	ND	ND	ND	ND	ND	ND	0.0
Styrene	.3	UG/L	0.4	DNQ0.7	DNQ0.6	ND	ND	ND	ND	DNQ0.4	ND	ND	DNQ0.4	ND	DNQ0.2
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
meta,para xylenes	.6	UG/L	ND	ND	ND	ND	DNQ1.2	ND	ND	ND	ND	ND	ND	ND	DNQ0.1
2-Chloroethylvinyl ether	1.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	P645113	P649601	P654243	P657814	P661078	P664283	P667056	P671076
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ4.15	DNQ3.74	DNQ2.84	DNQ5.50	DNQ4.22	DNQ1.84	DNQ4.33	DNQ2.79
octa CDD	1.4	PG/L	DNQ31.0	DNQ27.0	DNQ26.0	DNQ36.0	DNQ23.0	DNQ16.0	DNQ29.0	DNQ17.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND	ND	ND	ND	ND

Source			PLE	PLE	PLE	PLE
Month			SEP	OCT	NOV	DEC
Analyte	MDL	Units	P674472	P677625	P683396	P686359
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ1.95	DNQ2.33	DNQ2.95	DNQ3.66
octa CDD	1.4	PG/L	DNQ15.0	DNQ14.0	DNQ23.0	DNQ26.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	DNQ0.485	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source Month Analyte	MDL	Units	Equiv	PLE TCDD JAN P645113	PLE TCDD FEB P649601	PLE TCDD MAR P654243	PLE TCDD APR P657814	PLE TCDD MAY P661078	PLE TCDD JUN P664283	PLE TCDD JUL P667056	PLE TCDD AUG P671076
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.042	DNQ0.037	DNQ0.028	DNQ0.055	DNQ0.042	DNQ0.018	DNQ0.043	DNQ0.028
octa CDD	1.4	PG/L	0.001	DNQ0.031	DNQ0.027	DNQ0.026	DNQ0.036	DNQ0.023	DNQ0.016	DNQ0.029	DNQ0.017
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	ND	ND	ND	ND	ND	ND	ND	ND

Source Month Analyte	MDL	Units	Equiv	PLE TCDD SEP P674472	PLE TCDD OCT P677625	PLE TCDD NOV P683396	PLE TCDD DEC P686359
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.020	DNQ0.023	DNQ0.030	DNQ0.037
octa CDD	1.4	PG/L	0.001	DNQ0.015	DNQ0.014	DNQ0.023	DNQ0.026
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	DNQ0.049	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Analyte	MDL	Units	P645116	P649607	P654246	P657817	P661084	P664286	P667059	P671082	P674475
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ19.0	DNQ20.9	DNQ21.6	DNQ20.4	DNQ20.4	DNQ16.2	DNQ21.9	DNQ19.7	DNQ14.1
octa CDD	1.4	PG/L	210.0	270.0	190.0	200.0	170.0	200.0	220.0	190.0	150.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.835	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ1.90	DNQ0.793	DNQ2.59	DNQ1.34	DNQ1.85	DNQ5.72	DNQ2.87	DNQ5.43
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	DNQ4.79	DNQ3.84	DNQ4.06	DNQ5.75	DNQ4.63	DNQ4.90	DNQ6.13	DNQ5.07	DNQ4.26
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	DNQ14.2	DNQ9.33	DNQ7.30	DNQ11.4	DNQ9.1	DNQ12.8	DNQ13.8	DNQ11.2	DNQ7.49

Source			PLR	PLR	PLR
Month			OCT	NOV	DEC
Analyte	MDL	Units	P677631	P683399	P686362
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ16.7	25.7	DNQ14.8
octa CDD	1.4	PG/L	170.0	270.0	150.0
2,3,7,8-tetra CDF	.257	PG/L	DNQ0.874	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ3.00	DNQ3.08
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	DNQ4.34	DNQ6.53	DNQ4.40
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND
octa CDF	.738	PG/L	DNQ8.97	DNQ15.1	DNQ8.84

Above are permit required CDD/CDF isomers.

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source				PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P645116	P649607	P654246	P657817	P661084	P664286	P667059	P671082
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.190	DNQ0.209	DNQ0.216	DNQ0.204	DNQ0.204	DNQ0.162	DNQ0.219	DNQ0.197
octa CDD	1.4	PG/L	0.001	0.210	0.270	0.190	0.200	0.170	0.200	0.220	0.190
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.084	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	DNQ0.190	DNQ0.079	DNQ0.259	DNQ0.134	DNQ0.185	DNQ0.572	DNQ0.287
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	DNQ0.048	DNQ0.038	DNQ0.041	DNQ0.058	DNQ0.046	DNQ0.049	DNQ0.061	DNQ0.051
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	DNQ0.014	DNQ0.009	DNQ0.007	DNQ0.011	DNQ0.009	DNQ0.013	DNQ0.014	DNQ0.011

Source				PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD
Month				SEP	OCT	NOV	DEC
Analyte	MDL	Units	Equiv	P674475	P677631	P683399	P686362
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.141	DNQ0.167	0.257	DNQ0.148
octa CDD	1.4	PG/L	0.001	0.150	0.170	0.270	0.150
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	DNQ0.087	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	DNQ0.543	ND	DNQ0.300	DNQ0.308
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	DNQ0.043	DNQ0.043	DNQ0.065	DNQ0.044
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	DNQ0.007	DNQ0.009	DNQ0.015	DNQ0.009

Above are permit required CDD/CDF isomers.

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

2013
Point Loma Treatment Plant

Bacteriological Parameters

The following are the monthly bacteriological results of the Point Loma Treatment Plant Effluent. The values are stated in terms of Most Probable Number (MPN) per 100 milliliters for the total and fecal coliform densities and in terms of Colony Forming Unit (CFU) per 100 millilitiers for enterococcus.

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
January 2, 2013	70,000	46,000	<100
January 8, 2013	1,300,000	330,000	8,000e
January 14, 2013	940,000	700,000	4,200
January 22, 2013	330,000	46,000	400e
January 28, 2013	2,400,000	490,000	3,900
Average	1,008,000	322,400	3,900

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
February 4, 2013	3,500,000	490,000	27,000
February 11, 2013	13,000	680	<100
February 19, 2013	790,000	330,000	1,500e
February 25, 2013	1,100,000	490,000	22,000
Average	1,350,750	327,670	22,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
March 5, 2013	300,000	49,000	700e
March 11, 2013	9,200,000	1,100,000	28,000
March 18, 2013	7,000,000	2,300,000	230,000
March 25, 2013	22,000	4,600	<100
Average	4,130,500	863,400	2,496,950

*Multiple tube Fermentation Technique (MTF) SM 9221B (Total Coliform) & SM9221E (Fecal coliform)
**Membrane Filtration (MF) – EPA 1600
"e", estimated value, plate count falls outside the acceptable range per EPA method guidelines.

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
April 3 2013	9,200,000	5,400,000	35,000
April 8, 2013	790,000	790,000	1,200e
April 15, 2013	1,700,000	460,000	2,200
April 22, 2013	5,400,000	3,500,000	62,000e
April 29, 2013	2,400,000	490,000	55,000
Average	3,898,000	2,128,000	55,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
May 6, 2013	49,000	13,000	<100
May 13, 2013	2, 400,000	490,000	16,000e
May 20, 2013	3,500,000	2,400,000	23,000
May 28, 2013	5,400,000	2,400,000	38,000
Average	2,337,250.5	1,325,750	100

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
June 3, 2013	1,300,000	1,300,000	29,000
June 10, 2013	>16,000,000	>16,000,000	130,000e
June 17, 2013	11,000	3,100	100e
June 24, 2013	3,500,000	1,300,000	100,000e
Average	1,755,500	651,550	5,800

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
July 1, 2013	5,400,000	5,400,000	120,000e
July 9, 2013	9,200,000	5,400,000	440,000
July 15, 2013	2,200,000	1,300,000	17,000e
July 22, 2013	3,300,000	1,100,000	5,000
July 29, 2013	4,900.000	3,300,000	36,000
Average	4,020,980	3,300,000	20,500

*Multiple tube Fermentation Technique (MTF) SM 9221B (Total Coliform) & SM9221E (Fecal coliform)
**Membrane Filtration (MF) – EPA 1600
"e", estimated value, plate count falls outside the acceptable range per EPA method guidelines.

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
August 5, 2013	7,900,000	4,900,000	90,000e
August 12, 2013	3,300,000	2,300,000	5,700
August 19, 2013	110,000	<1,800	<100
August 26, 2013	13,000	2,000	<100
Average	2,830,750	2,000	1,967

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
September 3, 2013	79,000	6,800	200e
September 9, 2013	3,500,000	170,000	1,200e
September 16, 2013	310,000	46,000	1,600e
September 23, 2013	490,000	140,000	3,000
Average	1,094,750	90,700	3,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
October 1, 2012	33,000	33,000	600e
October 7, 2012	23,000	3,300	500e
October 14, 2012	110,000	13,000	100e
October 21, 2012	63,000	3,300	100e
October 25, 2012	79,000	22,000	300e
Average	61,600	14,920	0

*Multiple tube Fermentation Technique (MTF) SM 9221B (Total Coliform) & SM9221E (Fecal coliform)
**Membrane Filtration (MF) – EPA 1600
"e", estimated value, plate count falls outside the acceptable range per EPA method guidelines.

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
November 4, 2013	13,000	3,300	<100
November 12, 2013	3,300	450	<100
November 18, 2013	2,400,000	490,000	300e
November 27, 2013	79,000	2,800	100e
Average	623,825	124,138	40

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
December 2, 2013	350,000	11,000	700e
December 9, 2013	350,000	350,000	1,100e
December 16, 2013	>1,600,000	1,600,000	13,000e
December 23, 2013	350,000	49,000	400e
Average	350,000	502,500	0

*Multiple tube Fermentation Technique (MTF) SM 9221B (Total Coliform) & SM9221E (Fecal coliform)
**Membrane Filtration (MF) – EPA 1600
“e”, estimated value, plate count falls outside the acceptable range per EPA method guidelines.

POINT LOMA WASTEWATER TREATMENT PLANT
2013 Annual

Analyte:	Total Hardness		Calcium Hardness		Magnesium Hardness		Calcium		Magnesium	
MDL/Units	.4	mg/L	.1	mg/L	.4	mg/L	.04	mg/L	.1	mg/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	362	361	162	164	200	198	64.8	65.4	48.6	48.0
FEBRUARY -2013	388	384	178	177	210	207	71.1	70.6	50.9	50.4
MARCH -2013	400	398	183	183	217	215	73.2	73.1	52.7	52.2
APRIL -2013	436	438	200	202	236	236	80.1	80.9	57.3	57.2
MAY -2013	448	401	369	382	218	216	82.3	84.5	56.9	58.4
JUNE -2013	454	453	212	212	242	241	85.0	84.9	58.8	58.5
JULY -2013	413	415	196	196	217	218	78.6	78.7	52.8	53.0
AUGUST -2013	399	403	188	190	212	213	75.2	76.1	51.4	51.7
SEPTEMBER-2013	395	392	188	188	206	204	75.3	75.4	50.1	49.5
OCTOBER -2013	365	363	181	180	184	183	72.3	71.9	44.7	44.5
NOVEMBER -2013	388	393	188	192	200	201	75.2	76.7	48.7	48.8
DECEMBER -2013	373	379	177	179	196	199	70.9	71.7	47.6	48.4
Average:	402	398	202	204	212	211	75.3	75.8	51.7	51.7

Analyte:	Alkalinity		Total Solids		Total Vol. Solids		Conductivity		Fluoride	
MDL/Units	20	mg/L	10	mg/L	100	mg/L	10umhos/cm		.05	mg/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	284	270	1720	1490	490	271	2590	2630	0.88	0.92
FEBRUARY -2013	288	271	1840	1550	561	296	2650	2680	0.75	0.81
MARCH -2013	301	282	1900	1630	566	298	2750	2780	0.72	0.73
APRIL -2013	316	306	2200	1940	683	446	3050	3130	0.39	0.57
MAY -2013	318	304	2170	1920	648	432	3070	3120	0.80	0.76
JUNE -2013	323	311	2230	1870	662	367	3100	3140	0.78	0.80
JULY -2013	324	309	2110	1810	643	362	2990	3030	0.80	0.82
AUGUST -2013	322	311	2020	1720	596	320	2920	2980	0.69	0.74
SEPTEMBER-2013	320	300	1990	1670	607	302	2810	2870	0.55	0.68
OCTOBER -2013	311	289	1900	1640	552	285	2770	2850	0.62	0.63
NOVEMBER -2013	309	292	1950	1660	551	274	2850	2900	0.51	0.48
DECEMBER -2013	314	301	1960	1650	563	282	2910	2950	0.71	0.70
Average:	311	296	1999	1713	594	328	2872	2922	0.68	0.72

Analyte:	Chloride		Bromide		Sulfate		Nitrate		Ortho Phosphate	
MDL/Units	7	mg/L	.1	mg/L	9	mg/L	.04	mg/L	.2	mg/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	536	548	1.3	1.3	158	151	0.15	0.82	4.6	3.2
FEBRUARY -2013	543	560	1.3	1.3	185	174	0.04	0.45	3.6	3.3
MARCH -2013	563	577	1.3	1.4	190	180	<0.04	0.62	4.2	3.8
APRIL -2013	646	654	2.0	1.6	232	221	0.10	0.43	5.2	4.7
MAY -2013	627	652	1.4	1.7	243	233	0.07	0.61	5.5	5.0
JUNE -2013	640	662	1.5	1.5	239	230	0.04	0.58	5.7	5.9
JULY -2013	603	628	1.5	1.4	224	214	0.09	1.44	6.4	6.5
AUGUST -2013	583	615	1.4	1.3	221	210	0.09	0.71	6.2	6.2
SEPTEMBER-2013	569	589	1.3	1.3	211	200	0.07	0.65	5.7	5.4
OCTOBER -2013	538	577	1.2	1.2	226	215	<0.04	2.19	4.2	5.0
NOVEMBER -2013	570	595	1.3	1.2	222	210	<0.04	0.47	4.3	4.1
DECEMBER -2013	582	609	1.3	1.4	225	215	0.09	0.51	5.3	4.1
Average:	583	606	1.4	1.4	215	204	0.06	0.79	5.1	4.8

ND=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
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Analyte:	Lithium		Sodium		Potassium		Chemical Oxygen Demand		Soluble BOD	
MDL/Units	.002	mg/L	1	mg/L	.3	mg/L	18	mg/L	2	mg/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	0.069	0.027	341	353	26.6	26.7	598	258	81	80
FEBRUARY -2013	0.031	0.032	349	361	27.4	27.1	660	271	79	79
MARCH -2013	0.033	0.033	366	376	28.4	28.2	635	264	92	83
APRIL -2013	0.038	0.037	393	402	27.5	27.4	635	225	89	86
MAY -2013	0.043	0.044	399	421	29.7	29.9	612	241	85	80
JUNE -2013	0.046	0.045	420	429	31.4	31.0	730	266	86	84
JULY -2013	0.044	0.044	366	382	28.4	28.6	727	285	84	82
AUGUST -2013	0.045	0.044	368	385	31.3	30.8	683	230	86	85
SEPTEMBER-2013	0.041	0.039	339	347	28.2	27.4	660	217	74	73
OCTOBER -2013	0.047	0.038	313	331	25.5	25.3	629	222	78	73
NOVEMBER -2013	0.036	0.036	329	344	25.2	24.9	692	215	83	78
DECEMBER -2013	0.039	0.039	330	343	25.4	25.6	618	213	88	83
Average:	0.04	0.04	359	373	27.9	27.7	657	242	84	81

Analyte:	Total Disolved Solids		Floatables		Turbidity		Aluminum		Barium	
MDL/Units	28	mg/L	1.4	mg/L	.13	NTU	47	ug/L	.039	ug/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	1400	1430	<1.40	ND	130	37	717	120	57	21
FEBRUARY -2013	1500	1520	<1.40	ND	133	41	865	129	70	27
MARCH -2013	1570	1580	<1.40	ND	134	38	837	98	78	26
APRIL -2013	1760	1740	<1.40	2.60	138	38	1340	76	118	34
MAY -2013	1850	1850	<1.40	ND	139	43	1070	241	111	46
JUNE -2013	1830	1830	<1.40	<1.40	134	47	1030	121	112	43
JULY -2013	1790	1810	<1.40	<1.40	134	58	1060	216	106	43
AUGUST -2013	1680	1680	<1.40	<1.40	132	44	979	544	100	41
SEPTEMBER-2013	1600	1610	<1.40	ND	130	38	858	85	101	26
OCTOBER -2013	1590	1590	<1.40	ND	127	36	673	<47	97	37
NOVEMBER -2013	1620	1620	<1.40	ND	131	35	537	ND	88	32
DECEMBER -2013	1600	1580	<1.40	ND	134	34	464	ND	90	36
Average:	1649	1653	<1.40	0.22	133	41	869	136	94	34

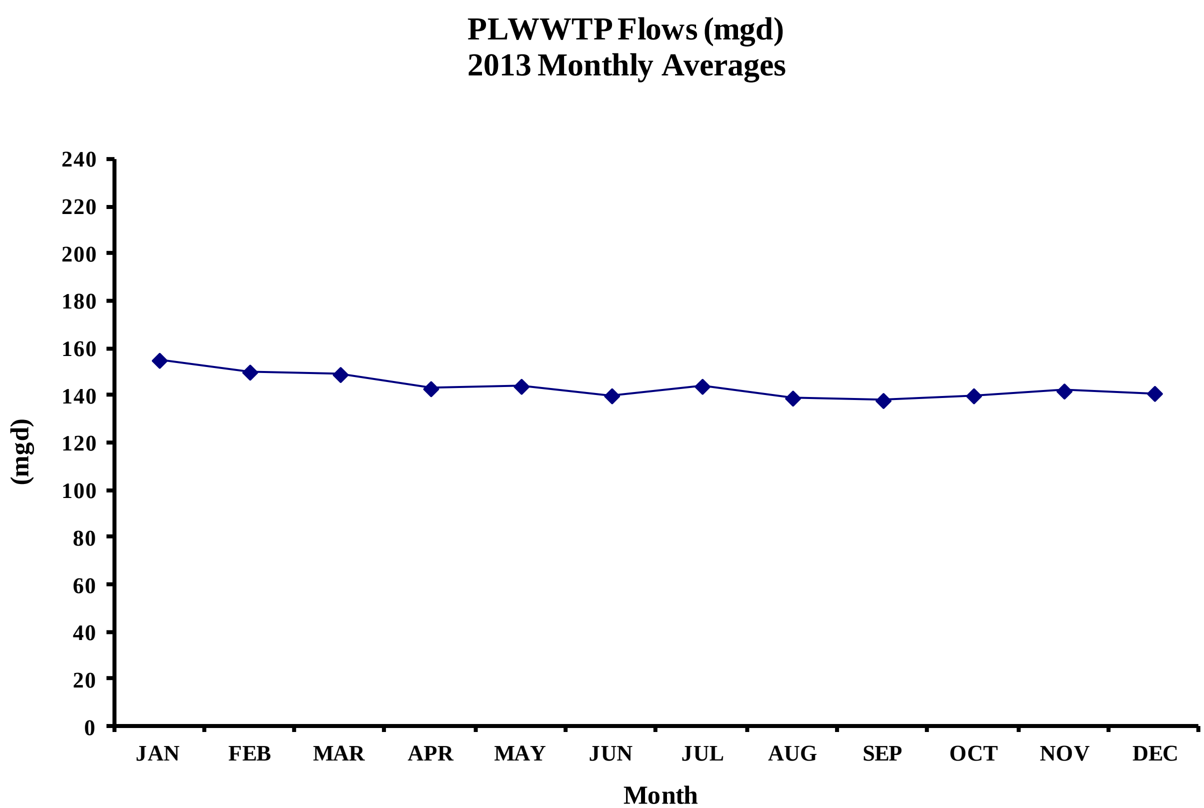
Analyte:	Boron		Cobalt		Molybdenum		Manganese		Vanadium	
MDL:	7	ug/L	.85	ug/L	.89	ug/L	.24	ug/L	.64	ug/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2013	356	378	<0.85	ND	7.58	5.73	109	101	4.48	1.67
FEBRUARY -2013	365	369	<0.85	ND	6.95	5.33	109	93	4.40	1.46
MARCH -2013	375	372	1.27	<0.85	8.13	5.41	117	96	4.22	0.93
APRIL -2013	448	380	1.06	<0.85	10.70	5.26	155	112	5.95	1.13
MAY -2013	406	443	<0.85	ND	10.70	8.32	137	126	4.50	1.10
JUNE -2013	425	427	1.97	1.39	7.66	5.09	126	109	5.70	1.90
JULY -2013	367	396	<0.85	ND	9.57	6.75	129	113	6.08	1.00
AUGUST -2013	404	466	<0.85	ND	8.20	5.74	120	112	6.90	1.64
SEPTEMBER-2013	408	399	ND	ND	11.60	7.03	120	102	8.75	1.58
OCTOBER -2013	369	364	1.23	<0.85	8.64	5.65	121	108	6.99	2.09
NOVEMBER -2013	367	361	<0.85	ND	10.60	6.69	104	93	5.30	1.42
DECEMBER -2013	378	366	<0.85	ND	6.26	4.12	119	111	4.66	1.42
Average:	389	393	0.46	0.116	8.88	5.93	122	106	5.66	1.45

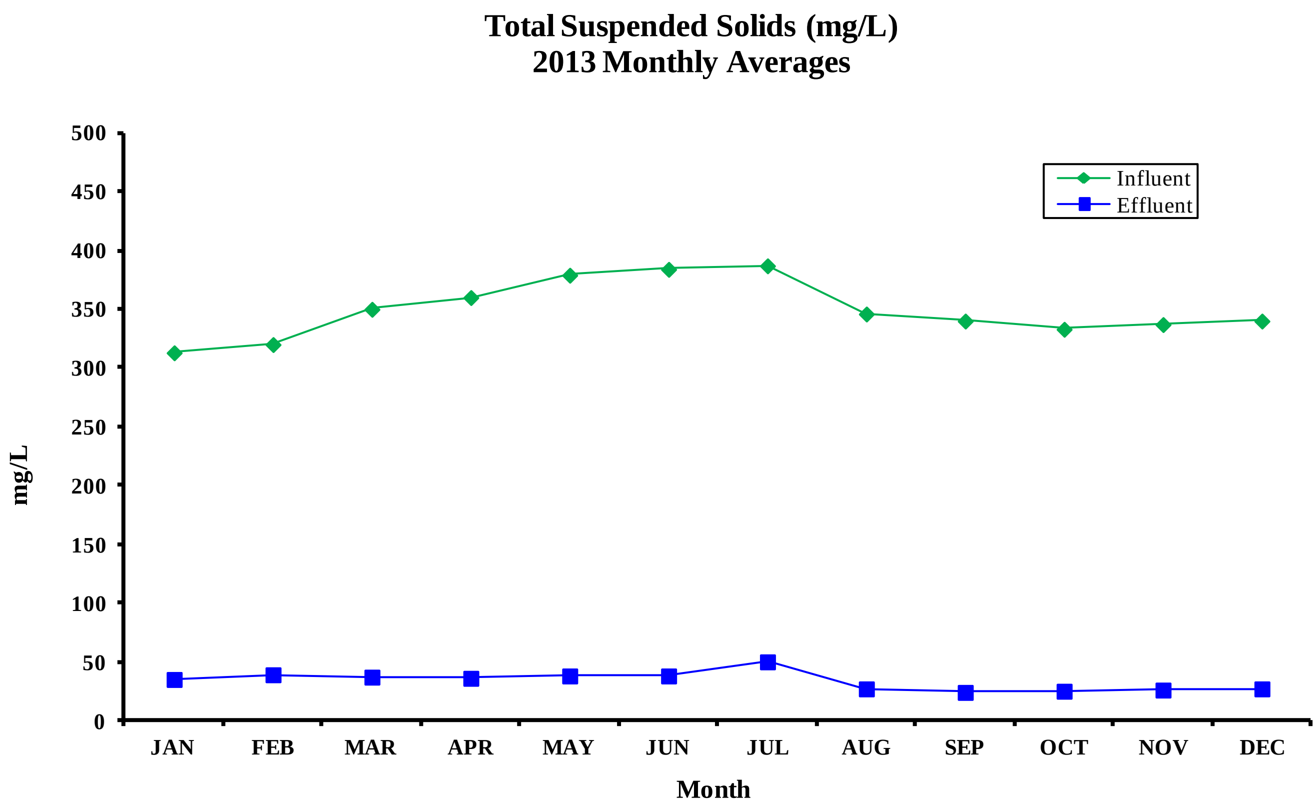
ND=not detected; NS=not sampled; NA=not analyzed

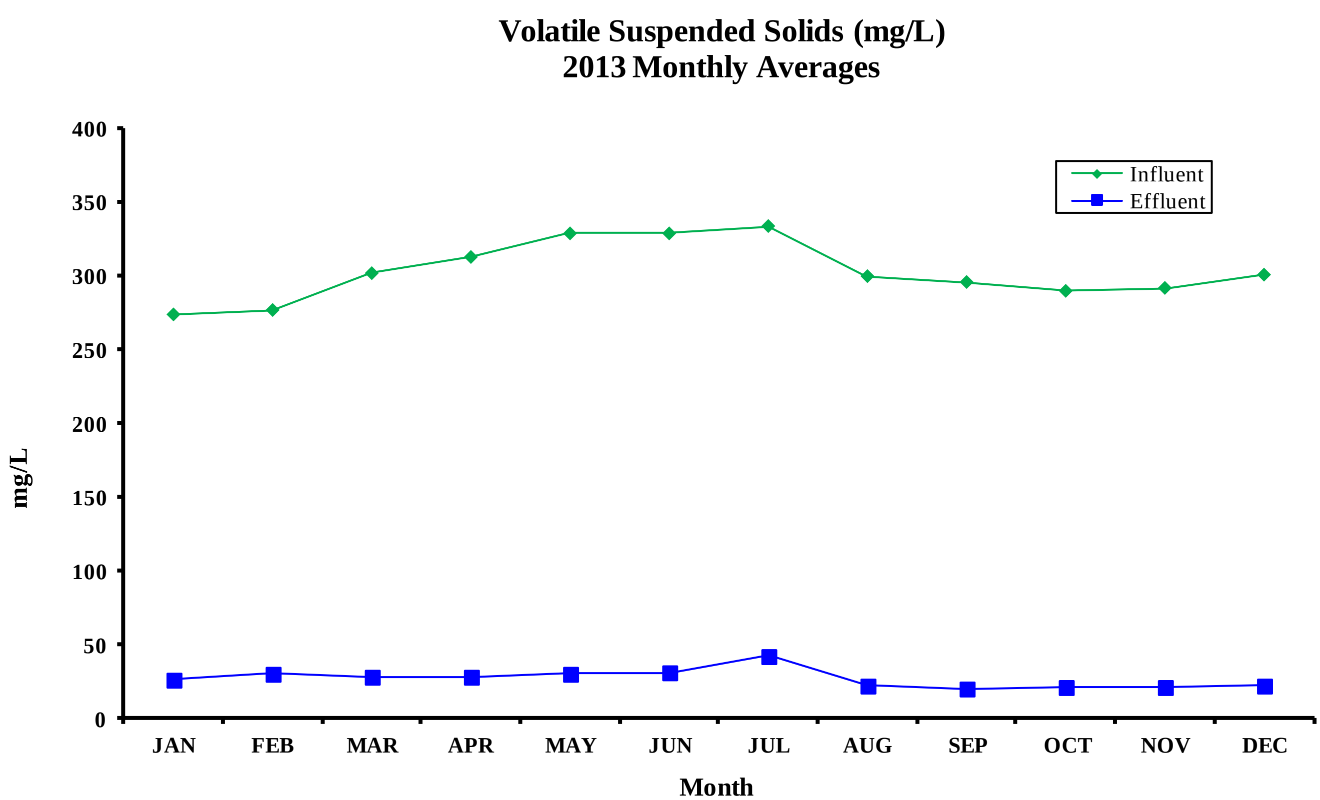
D. Influent and Effluent Graphs

Graphs of monthly averages for permit parameters with measurable concentration averages.

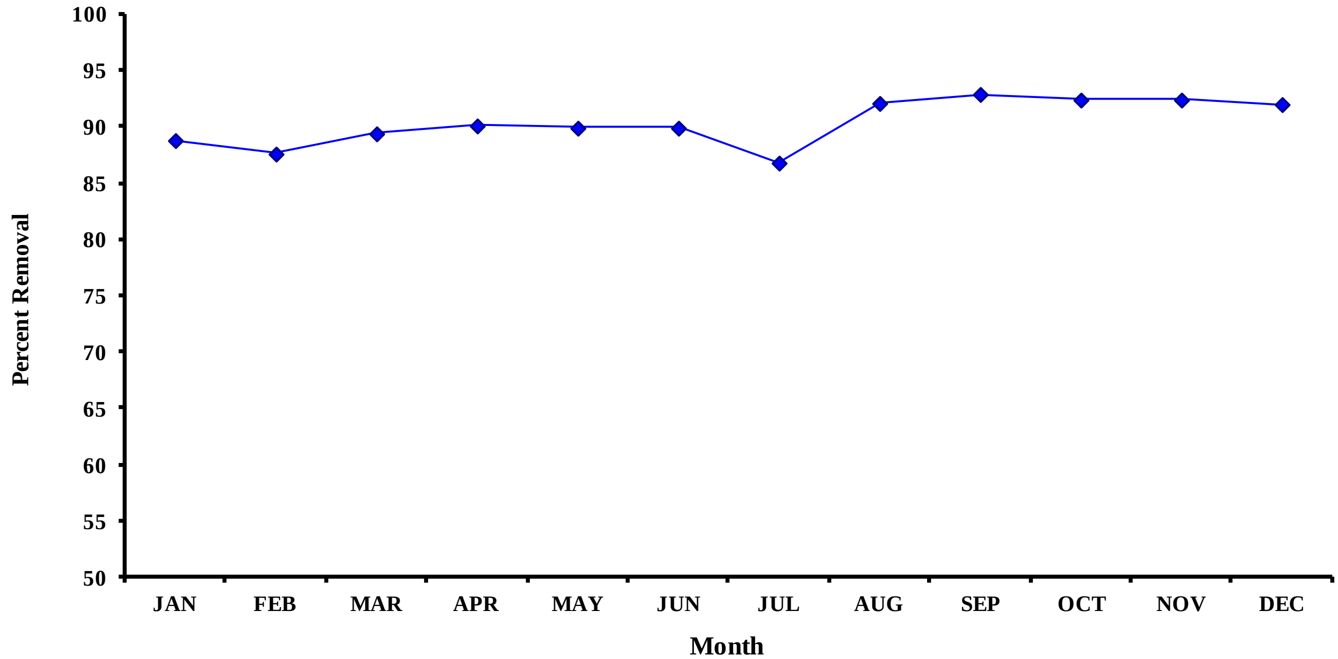
Where possible, the influent and effluent values of a given parameter have been included on the same graph so that removals and other relationships are readily apparent. Please note that many of the graphs are on expanded scales. That is, they may not go to zero concentrations but show, in magnified scale, that range of concentrations where variation takes place. This makes differences and some trends obvious that might normally not be noticed. However, it also provides the temptation to interpret minor changes or trends as being of more significance than they are. Frequent reference to the scales and the actual differences in concentrations is therefore necessary.



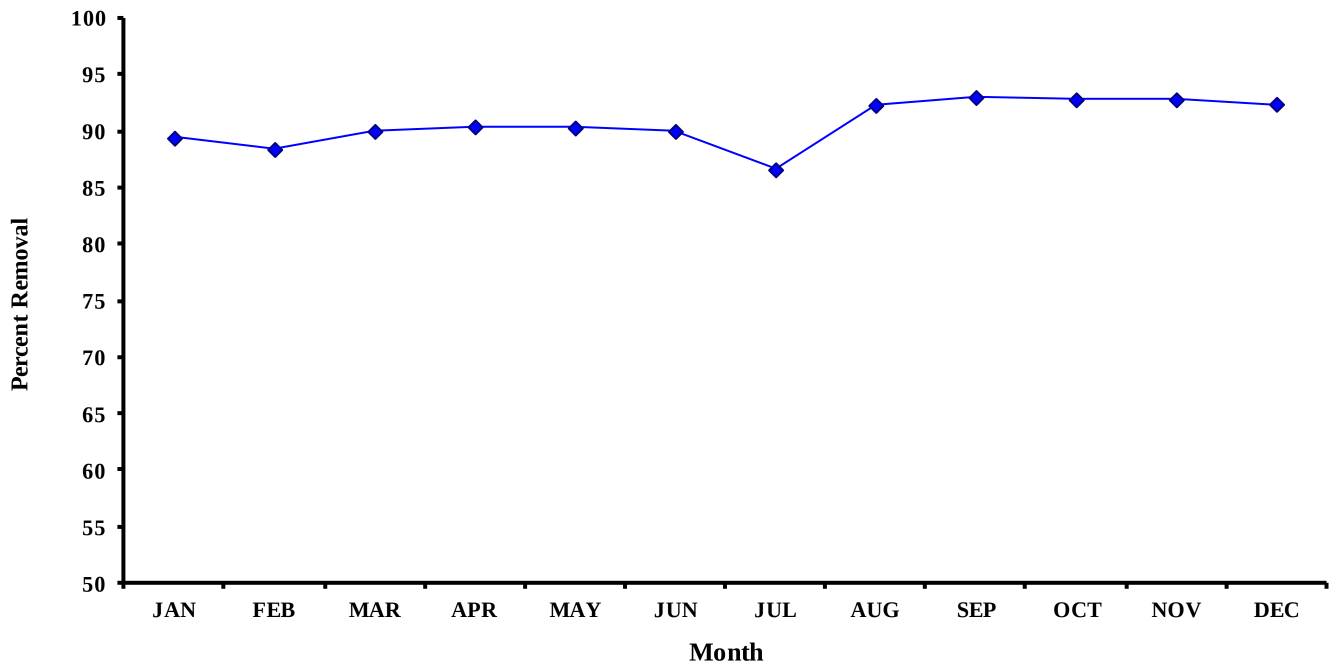

Total Suspended Solids (mg/L)
2013 Monthly Averages
500
450
400
350
300
250
200
150
100
50
0
mg/L
Influent
Effluent
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Volatile Suspended Solids (mg/L)
2013 Monthly Averages
400
350
300
250
200
150
100
50
0
mg/L
Influent
Effluent
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

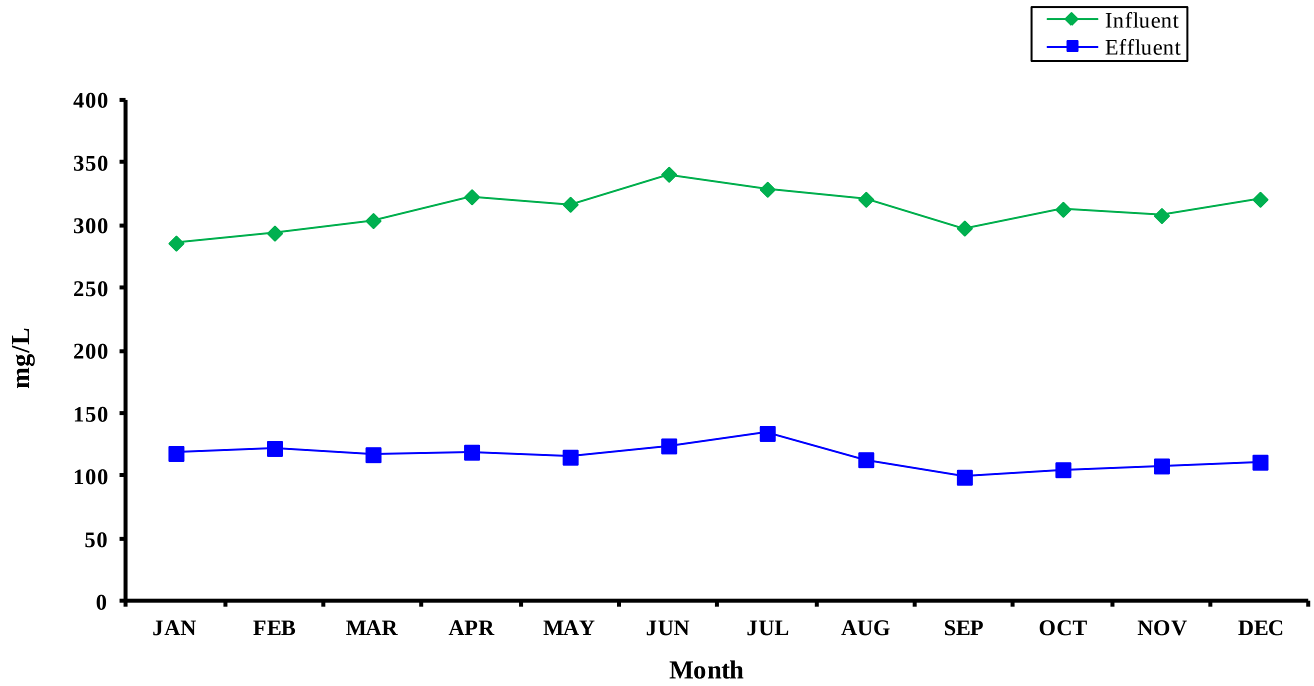
Total Suspended Solids (%) Removal
2013 Monthly Averages



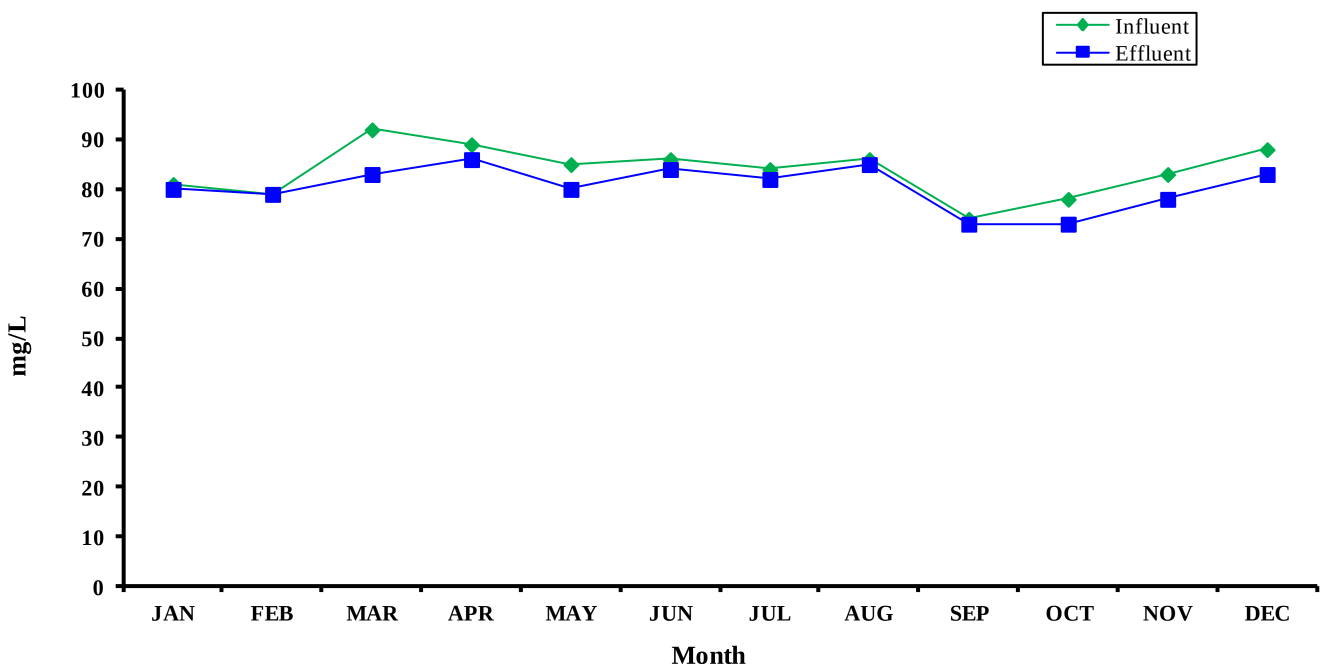
Total Suspended Solids (%) Removal
2013 Monthly Averages Systemwide



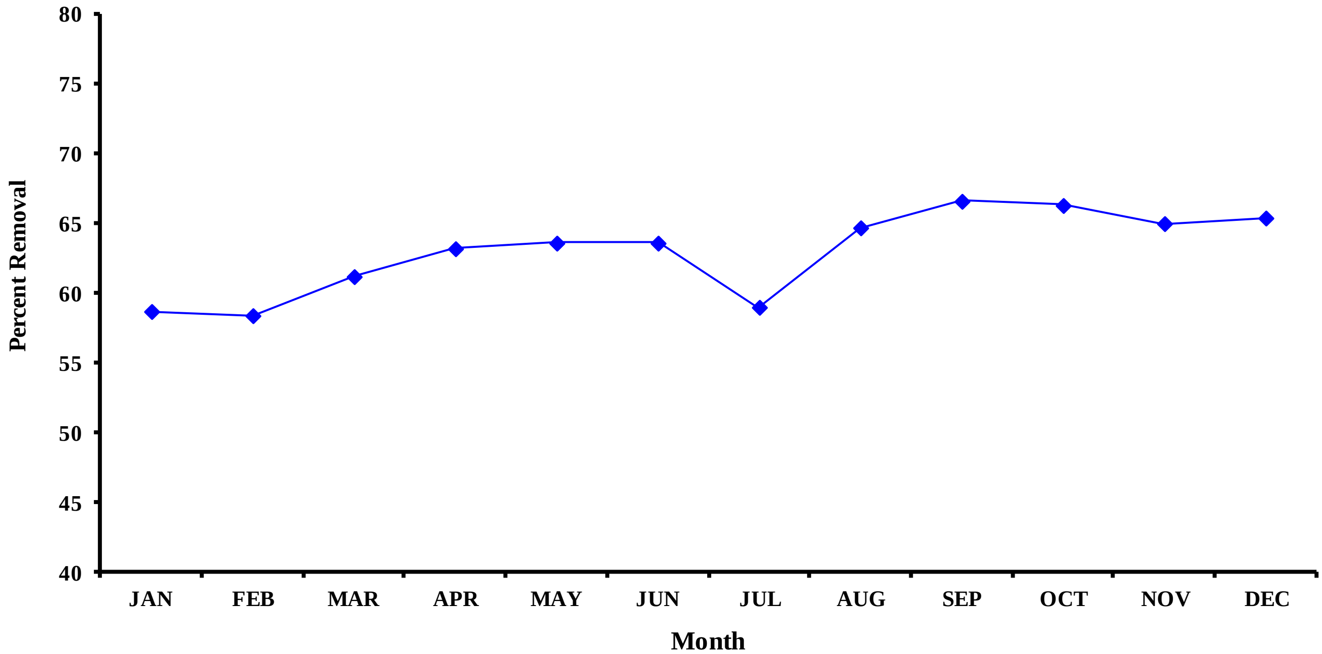
Biochemical Oxygen Demand
2013 Monthly Averages



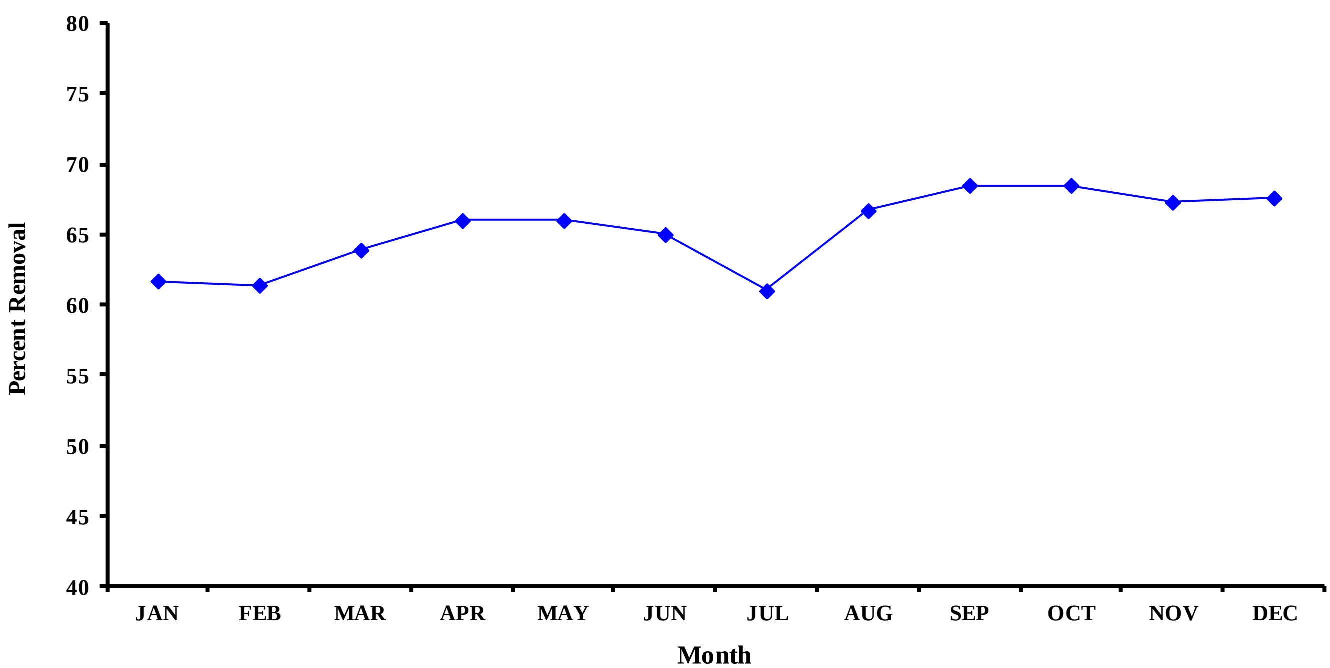
Soluble Biochemical Oxygen Demand
2013 Monthly Averages



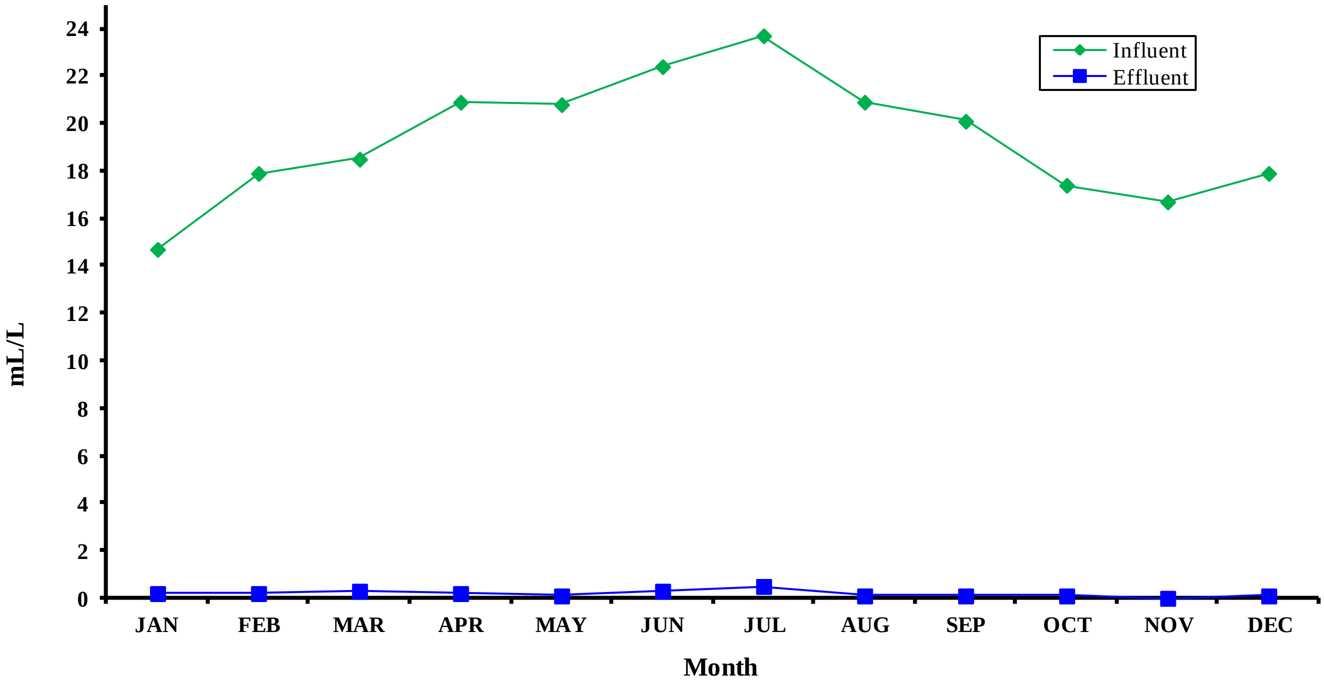
Biochemical Oxygen Demand (%) Removal
2013 Monthly Averages



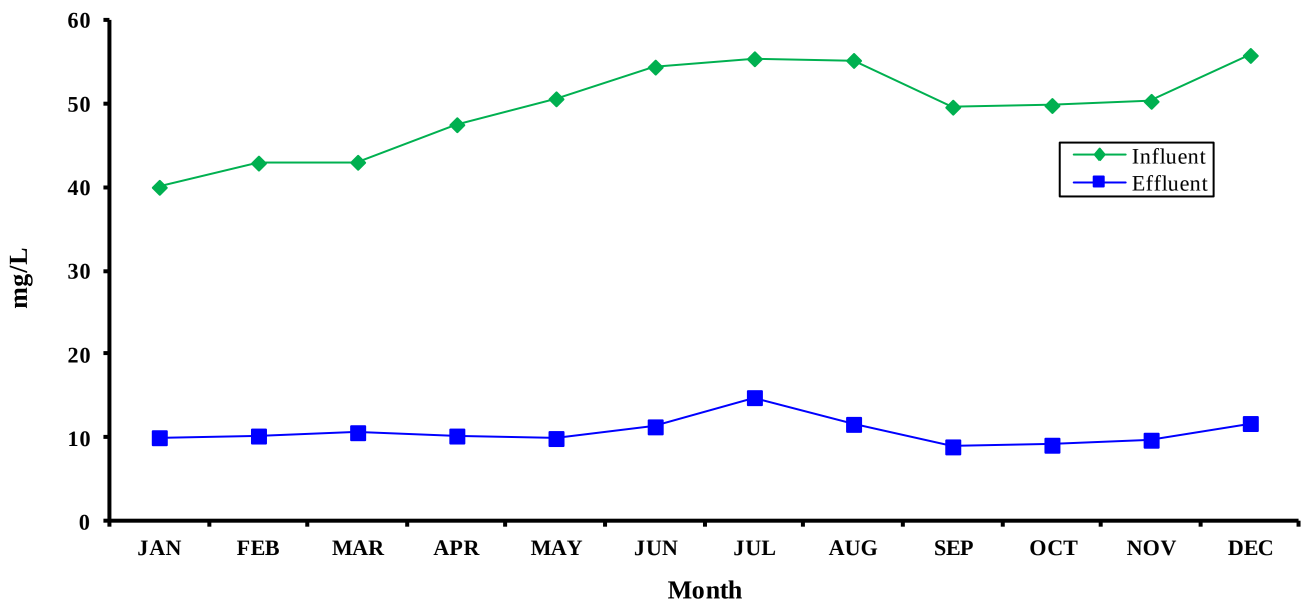
Biochemical Oxygen Demand (%) Removal
2013 Monthly Averages Systemwide

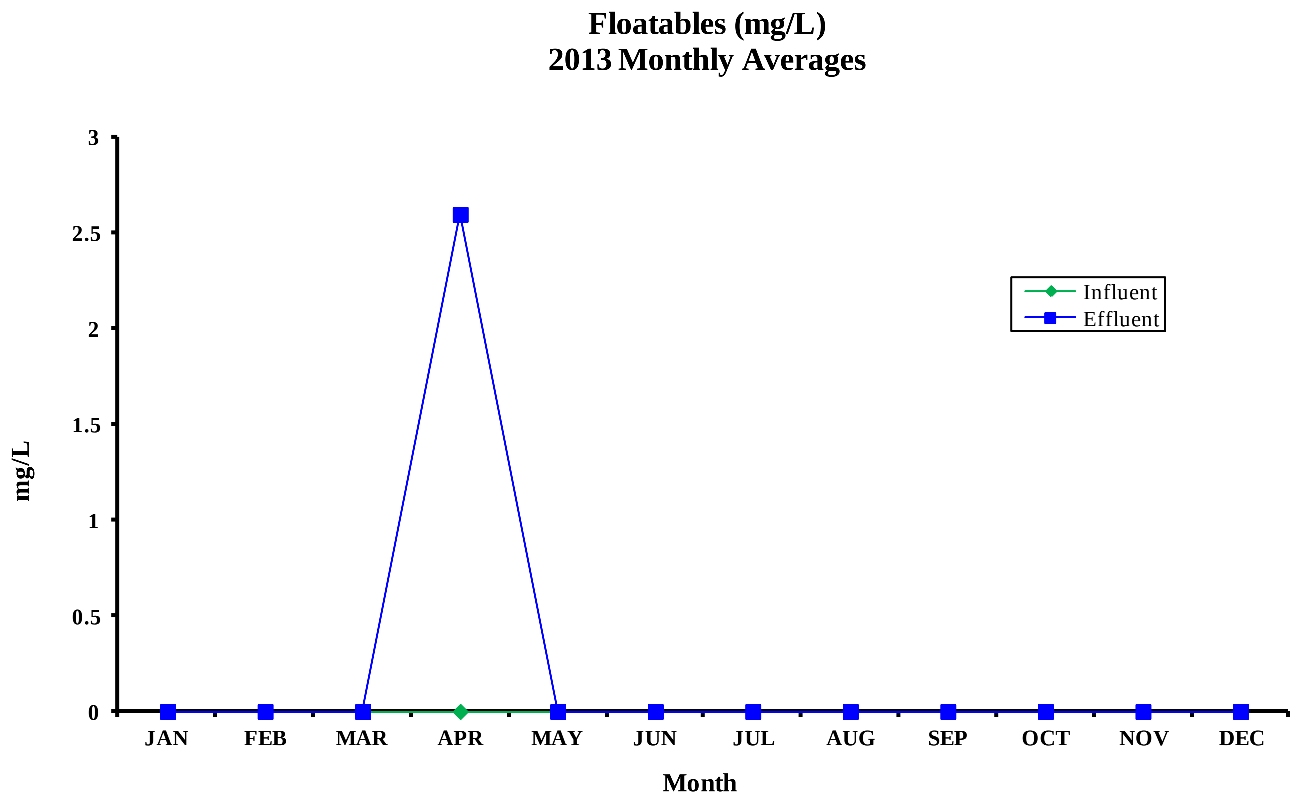


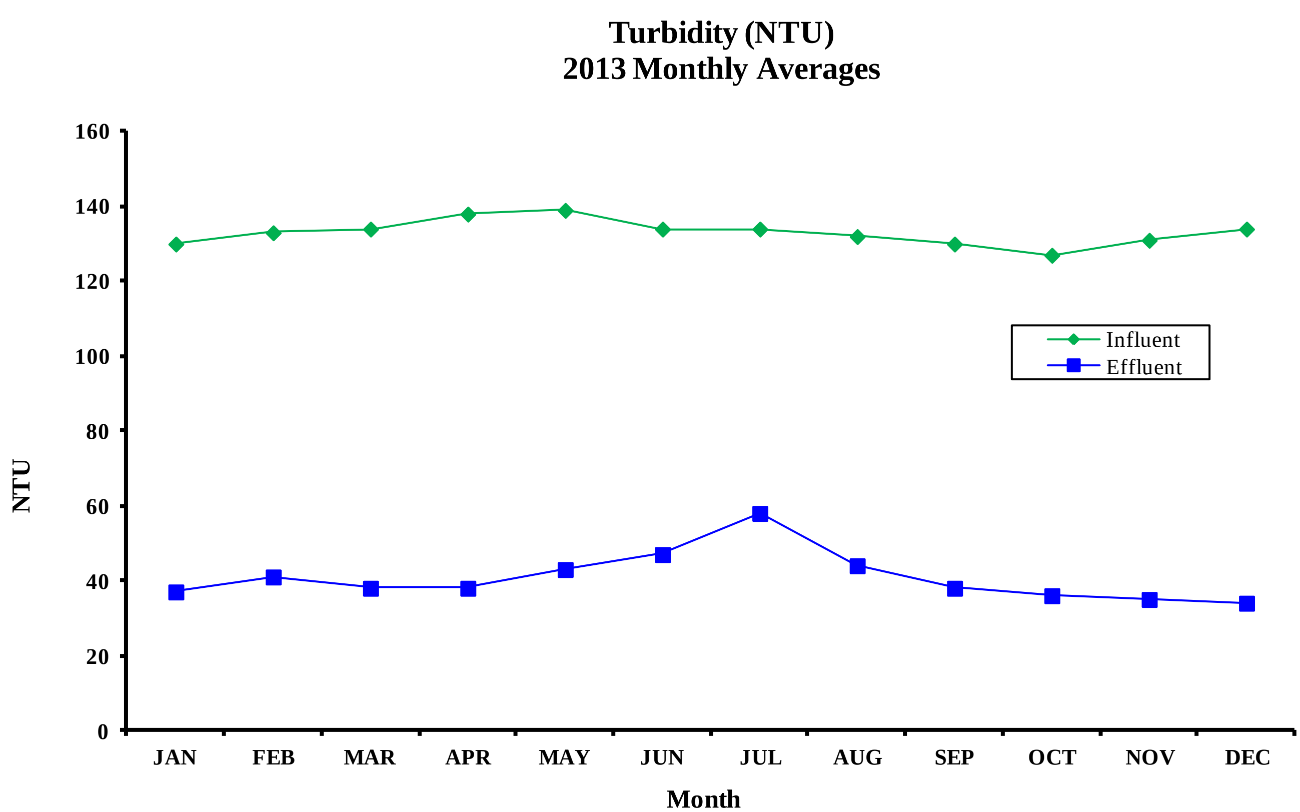
Settleable Solids (mL/L)
2013 Monthly Averages



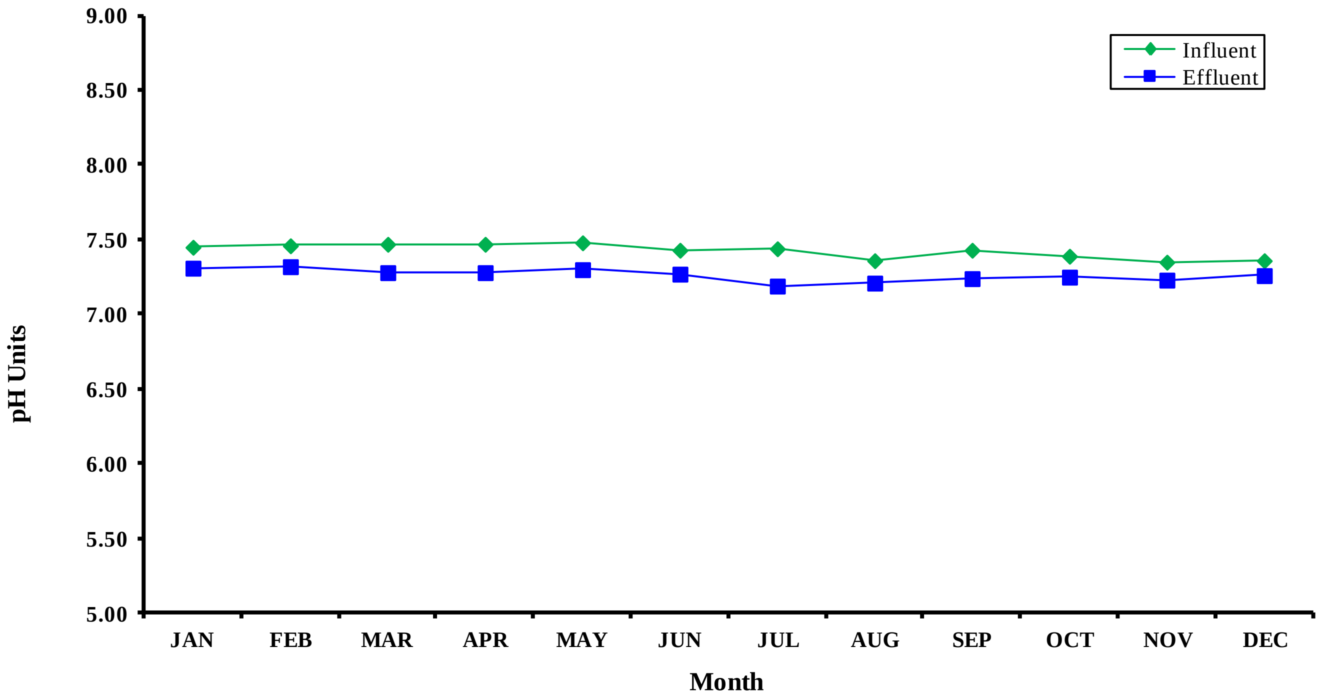
Hexane Extractable Material (mg/L)
2013 Monthly Averages



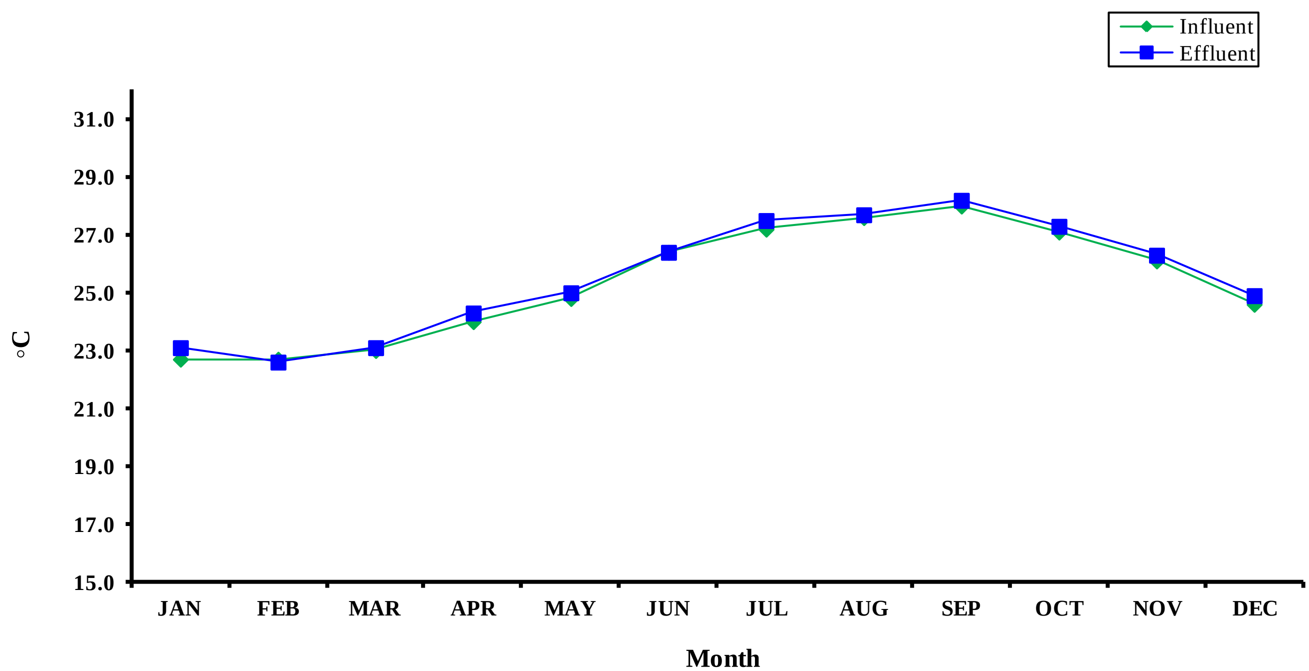

Floatables (mg/L)
2013 Monthly Averages
3
2.5
2
1.5
1
0.5
0
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month
Influent
Effluent

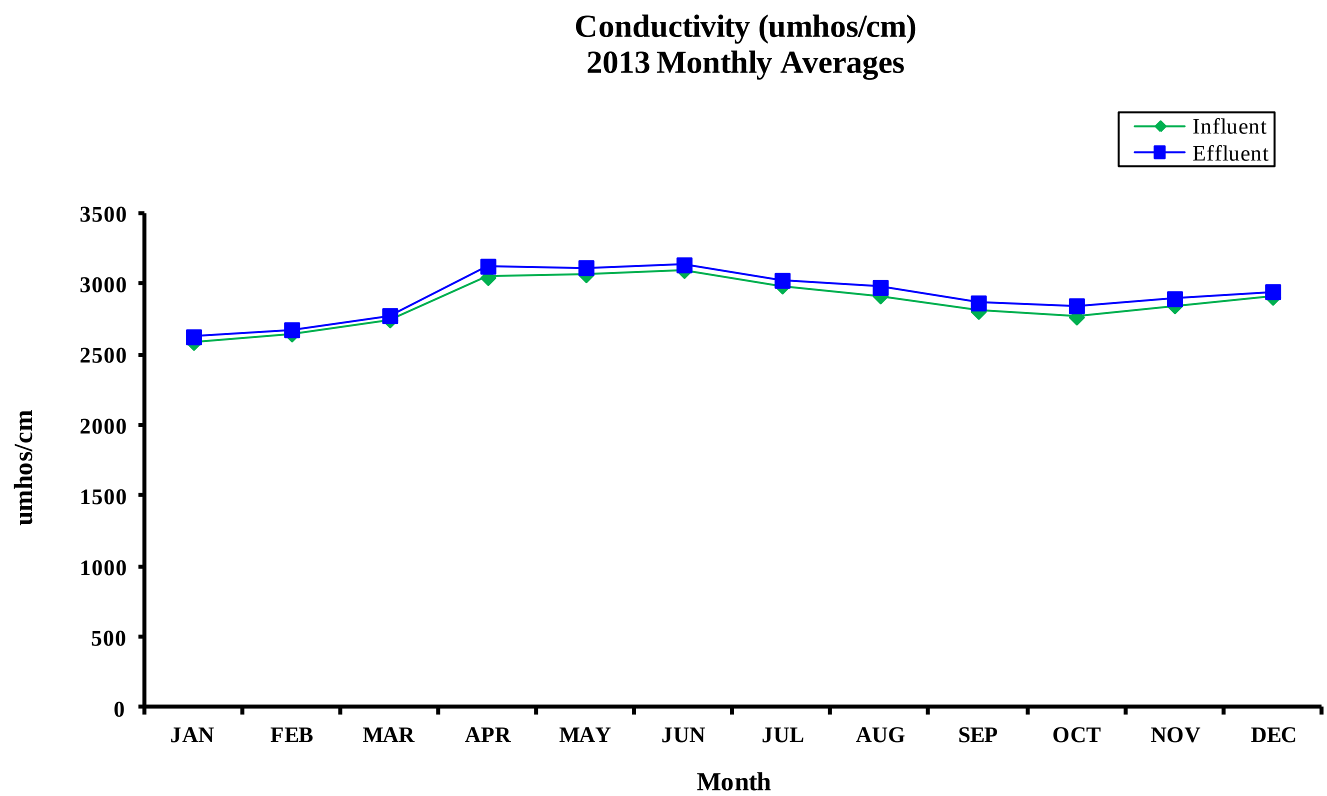

Turbidity (NTU)
2013 Monthly Averages
160
140
120
100
80
60
40
20
0
NTU
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month
Influent
Effluent

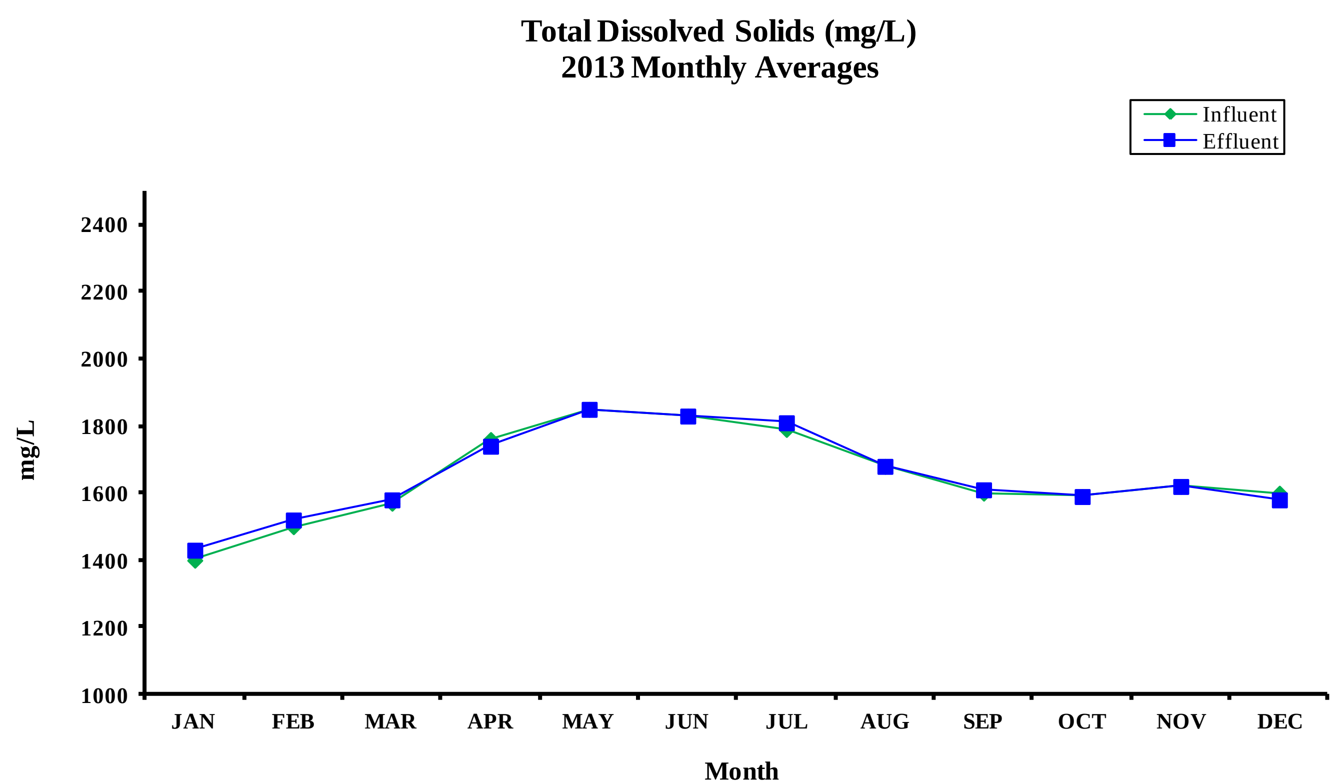
pH
2013 Monthly Averages



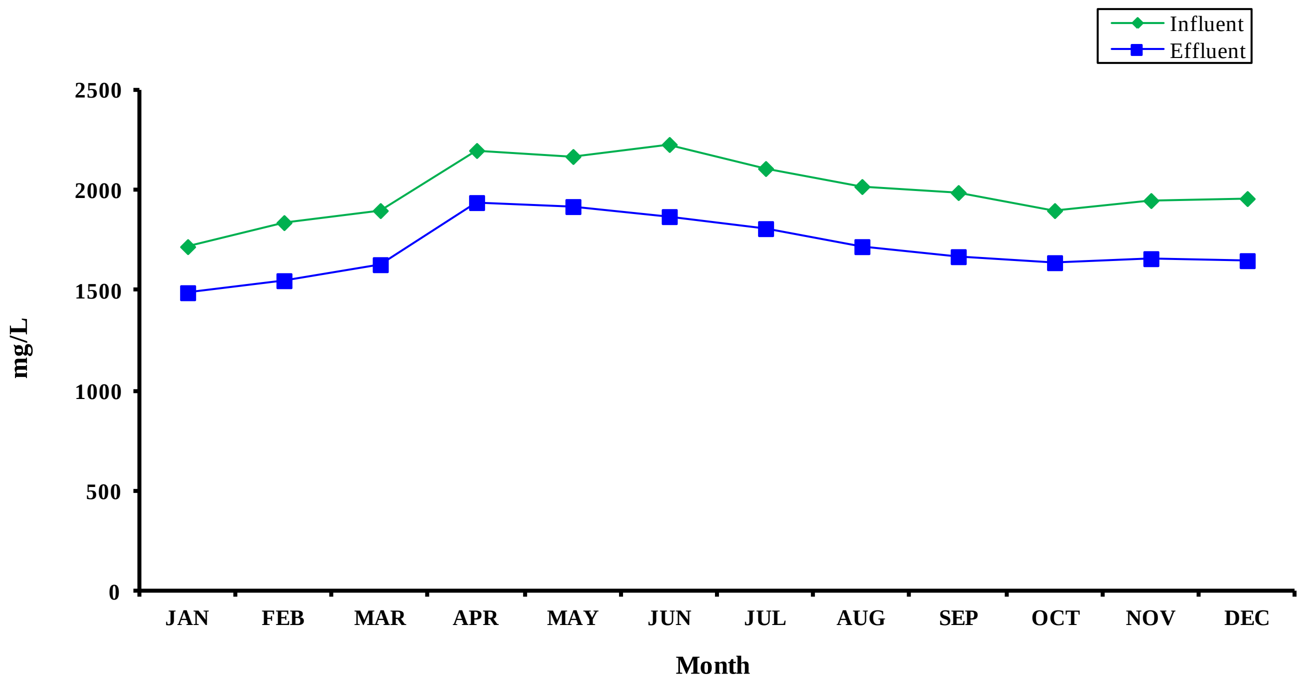
Temperature (°C)
2013 Monthly Averages



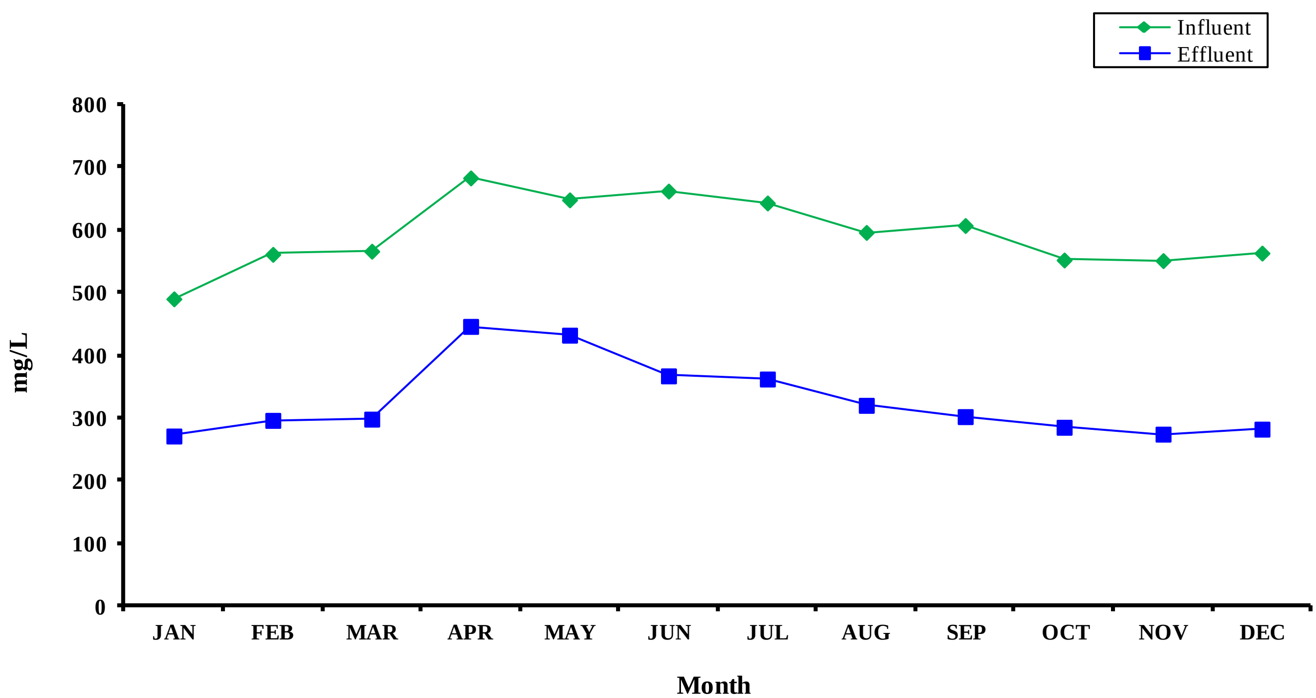

Conductivity (umhos/cm)
2013 Monthly Averages
Influent
Effluent
3500
3000
2500
2000
1500
1000
500
0
umhos/cm
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Total Dissolved Solids (mg/L)
2013 Monthly Averages
Influent
Effluent
2400
2200
2000
1800
1600
1400
1200
1000
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

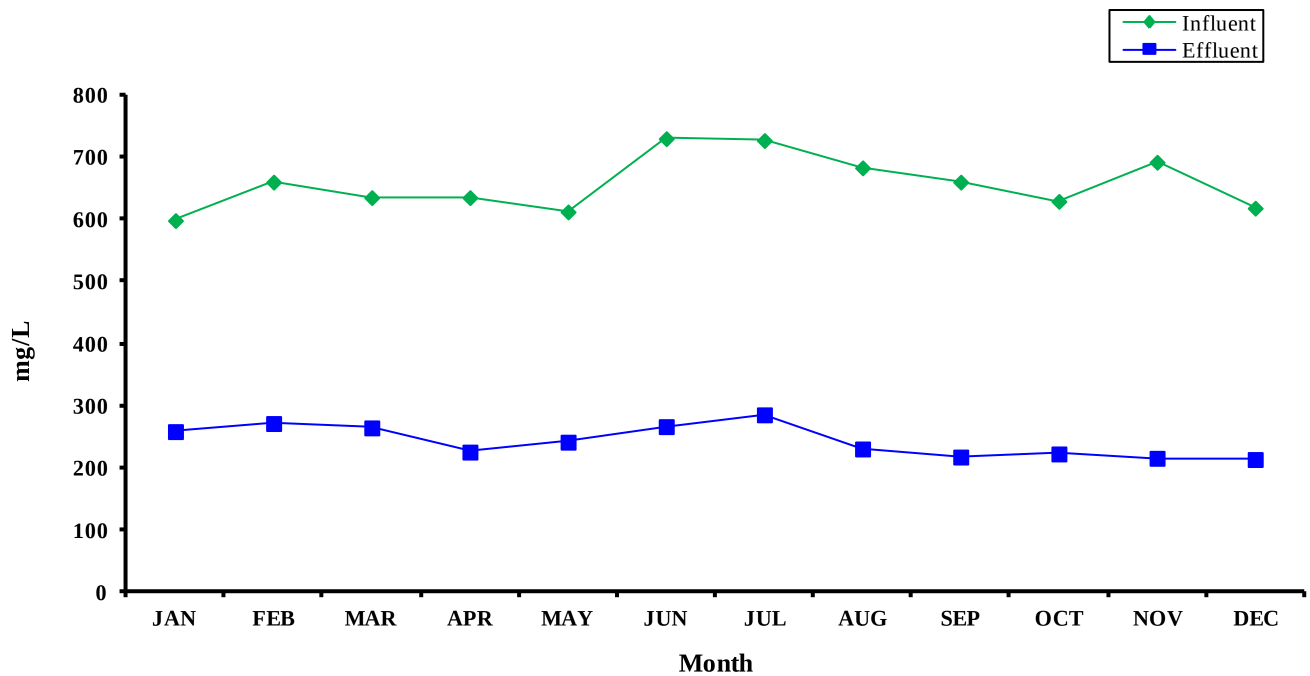
Total Solids (mg/L)
2013 Monthly Averages



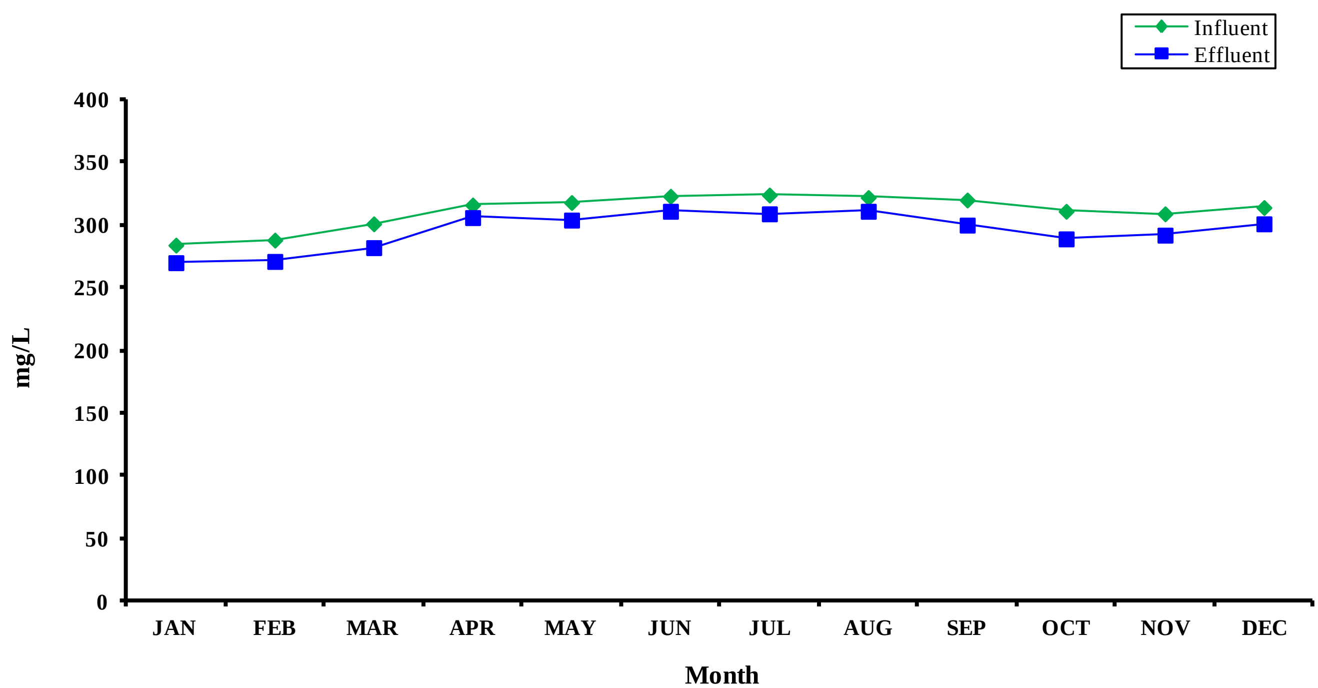
Total Volatile Solids (mg/L)
2013 Monthly Averages

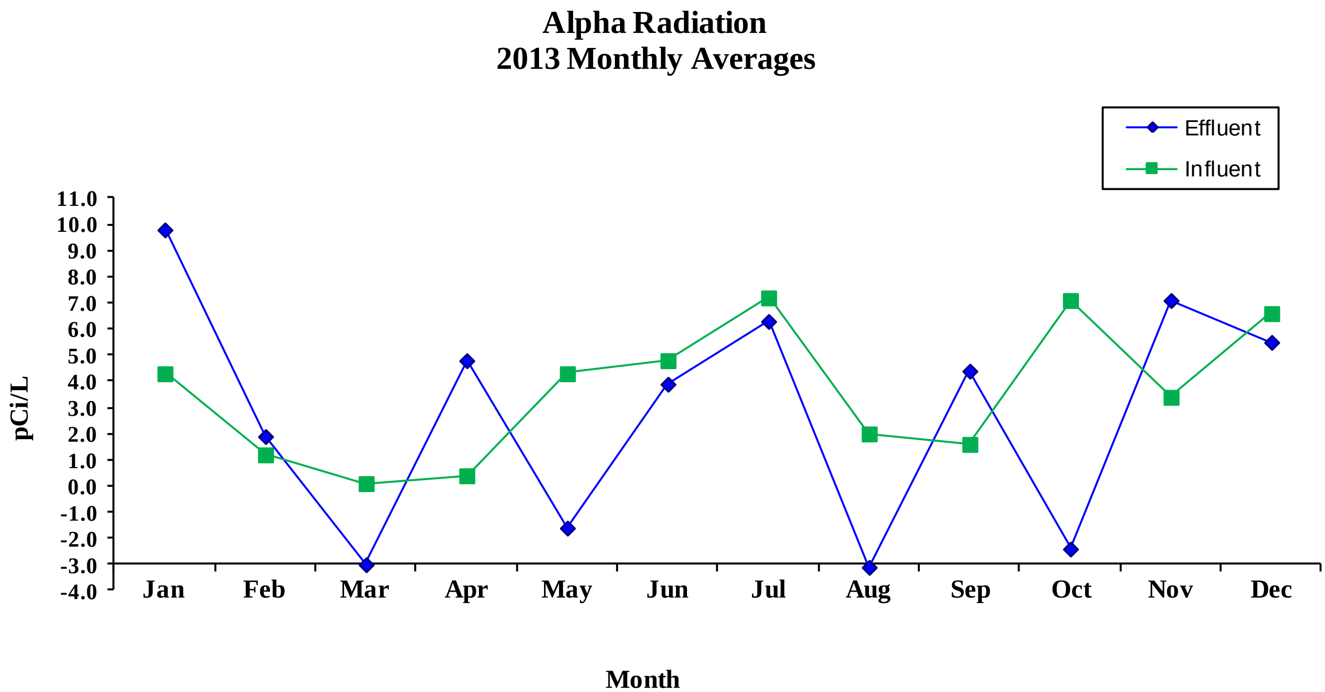


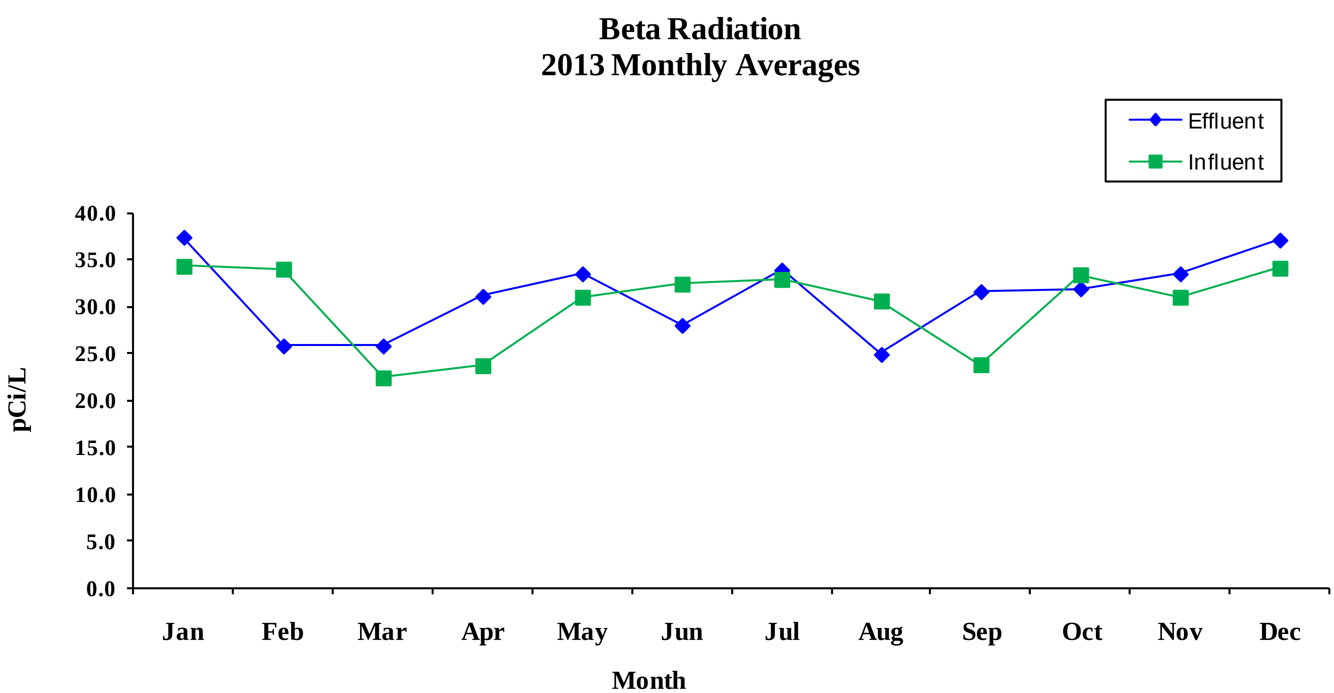
Chemical Oxygen Demand (mg/L)
2013 Monthly Averages

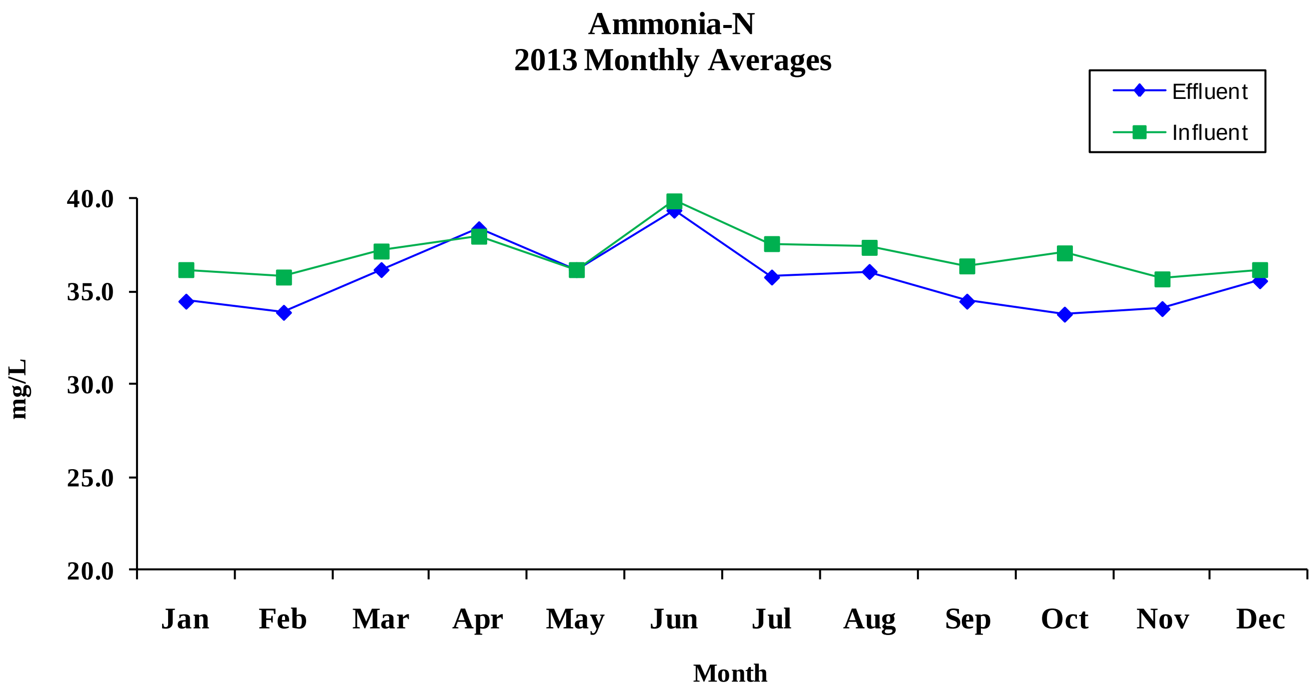


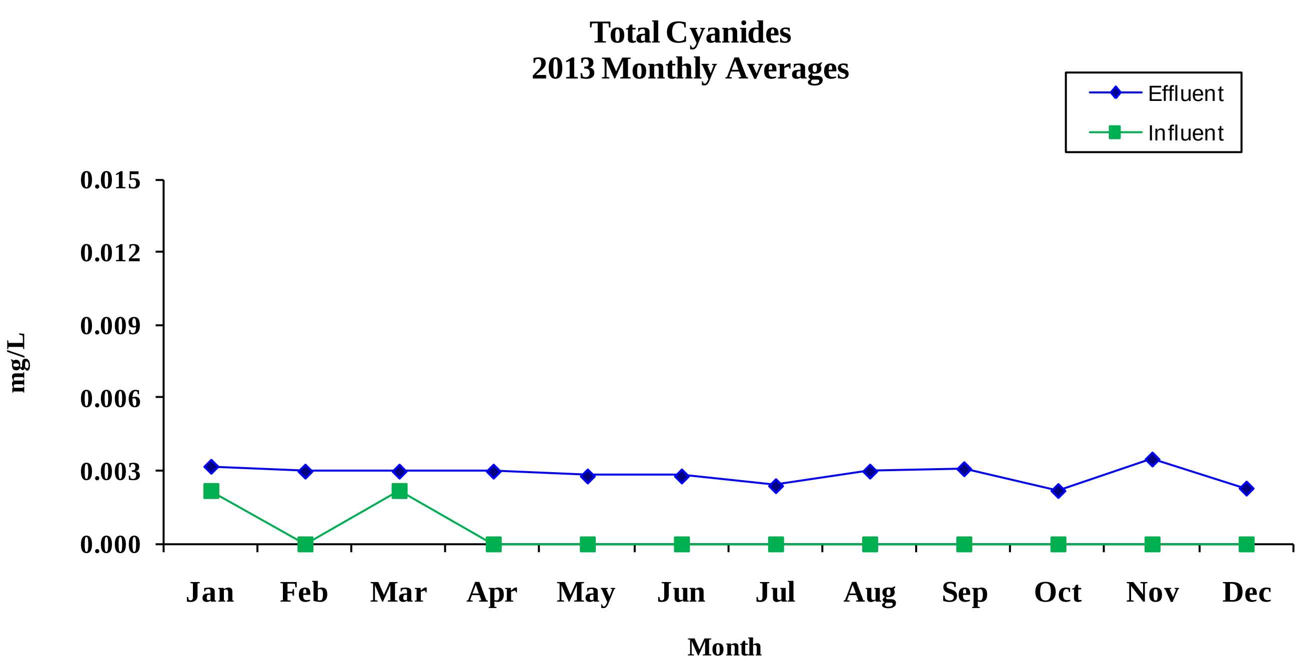
Alkalinity (mg/L)
2013 Monthly Averages



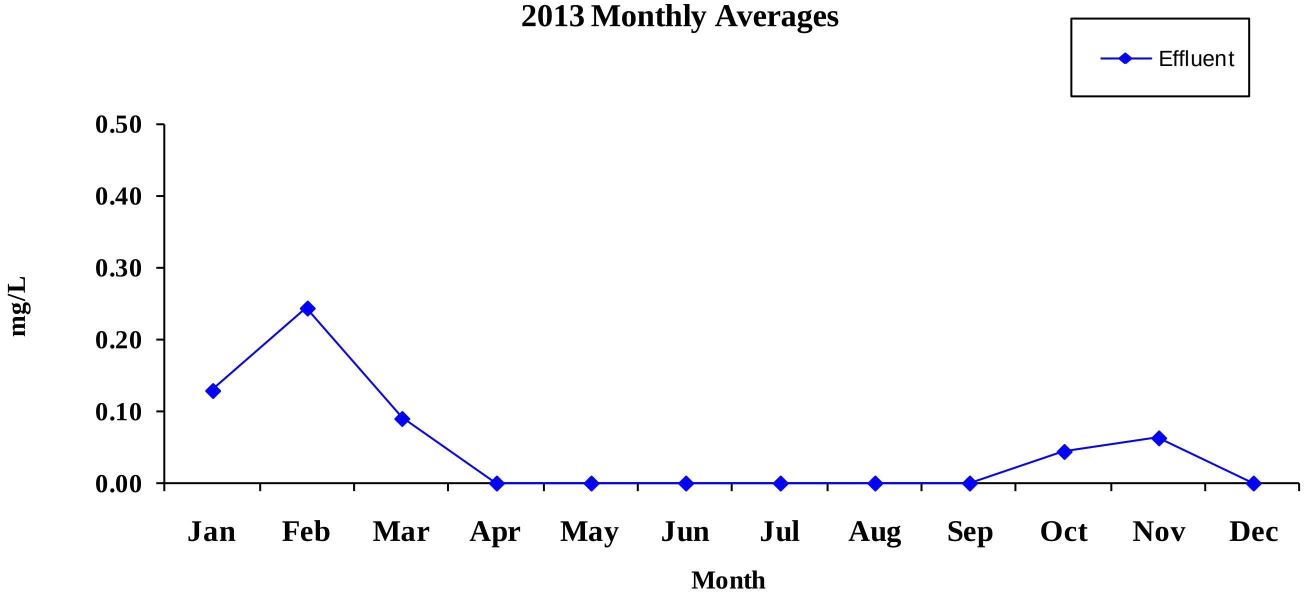

Alpha Radiation
2013 Monthly Averages
Effluent
Influent
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
pCi/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Beta Radiation
2013 Monthly Averages
Effluent
Influent
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
pCi/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

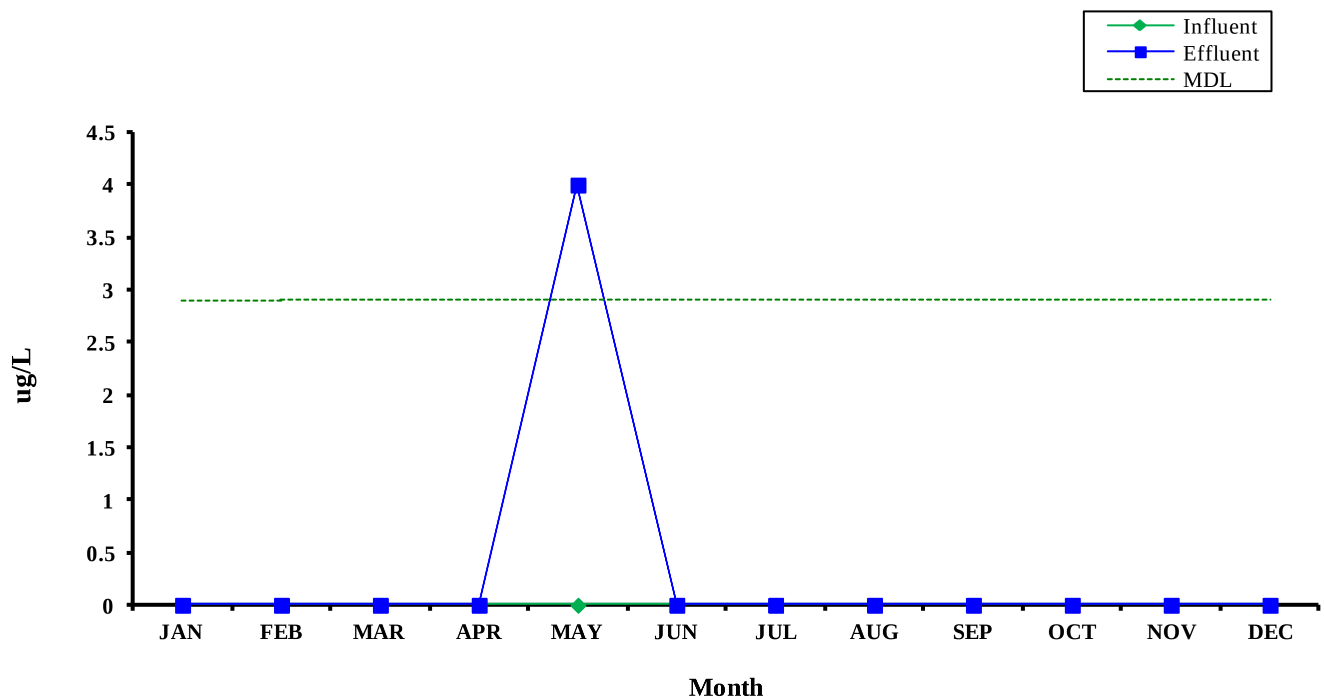

Ammonia-N
2013 Monthly Averages
Effluent
Influent
40.0
35.0
30.0
25.0
20.0
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

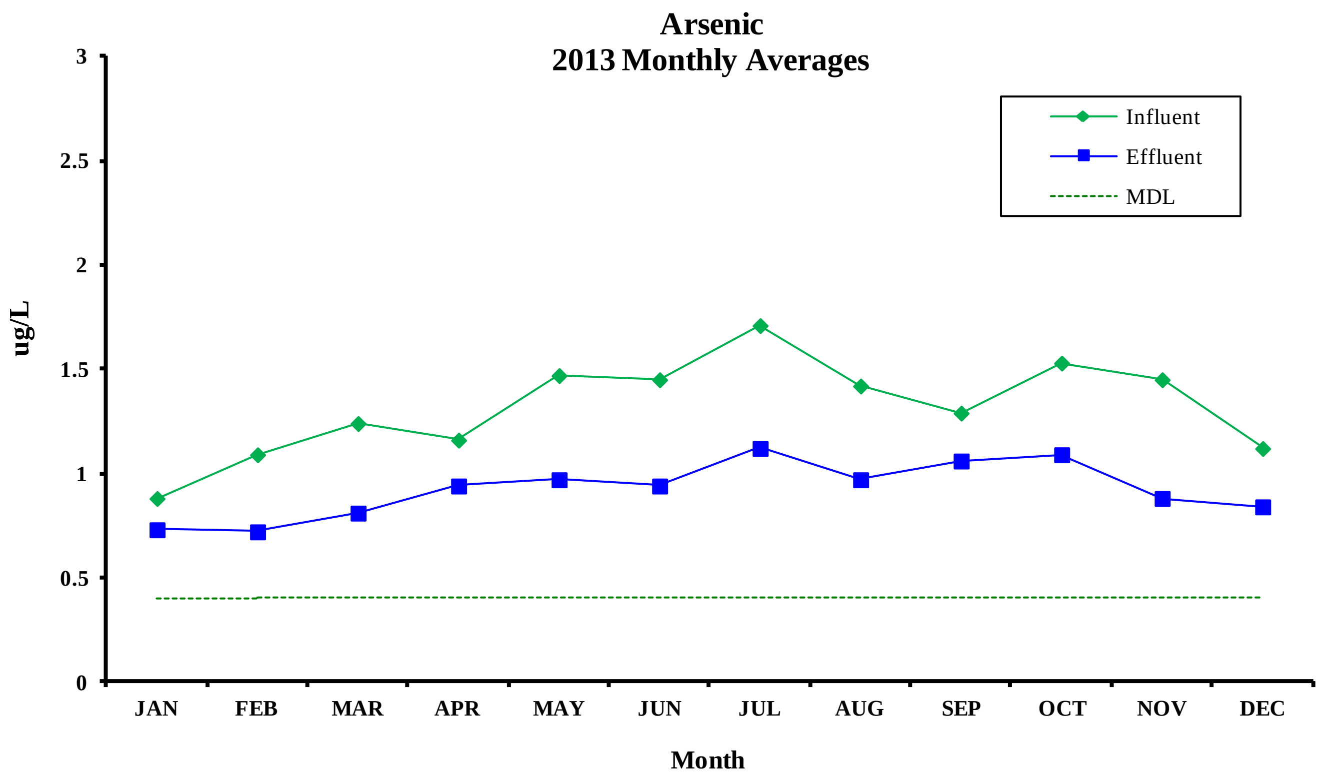

Total Cyanides
2013 Monthly Averages
Effluent
Influent
0.015
0.012
0.009
0.006
0.003
0.000
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

Total Residual Chlorine
2013 Monthly Averages

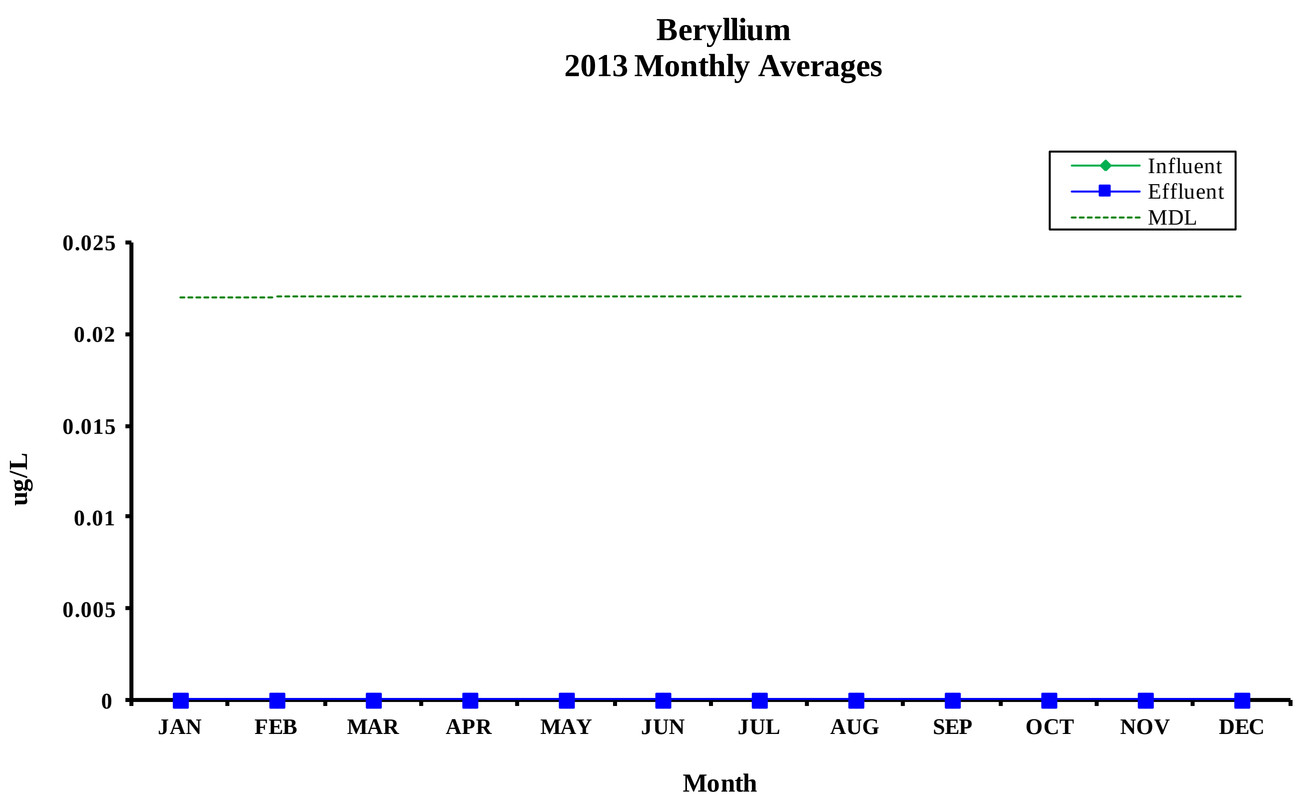


Antimony
2013 Monthly Averages

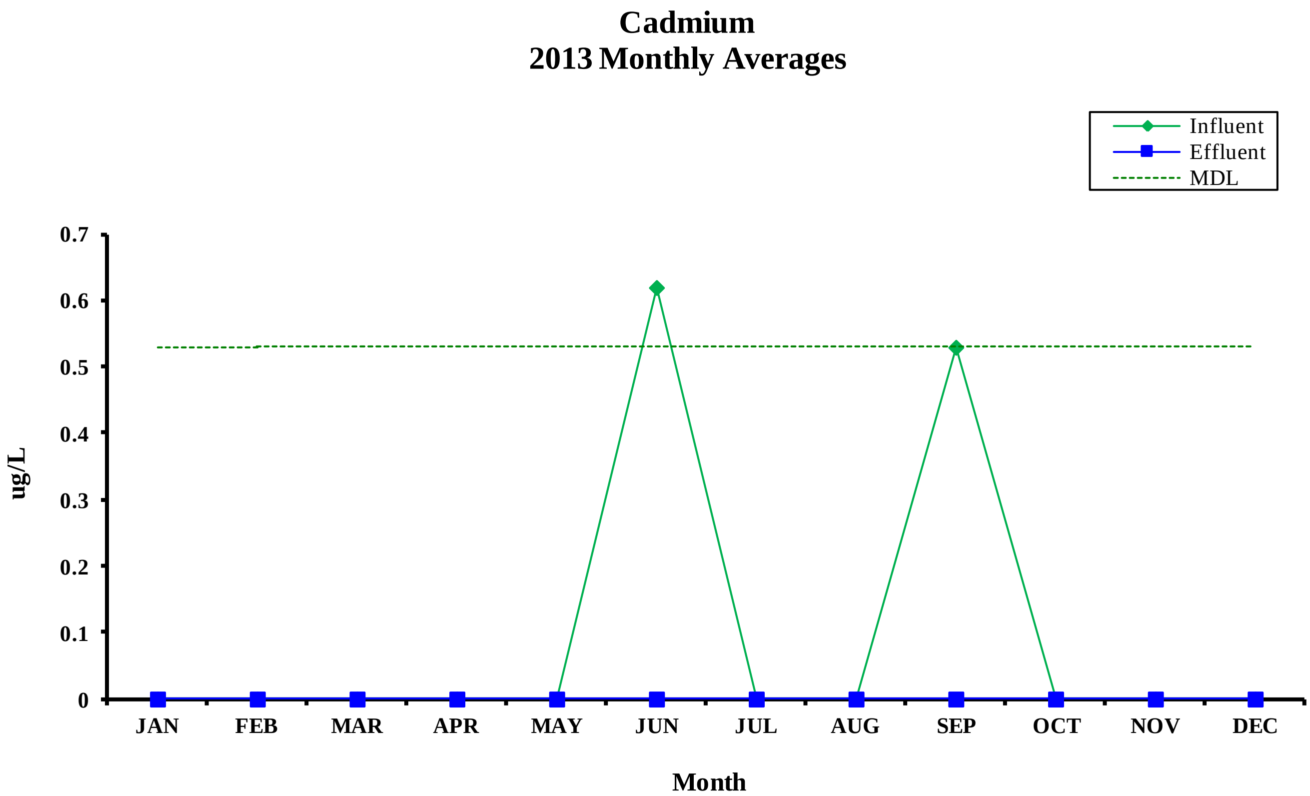


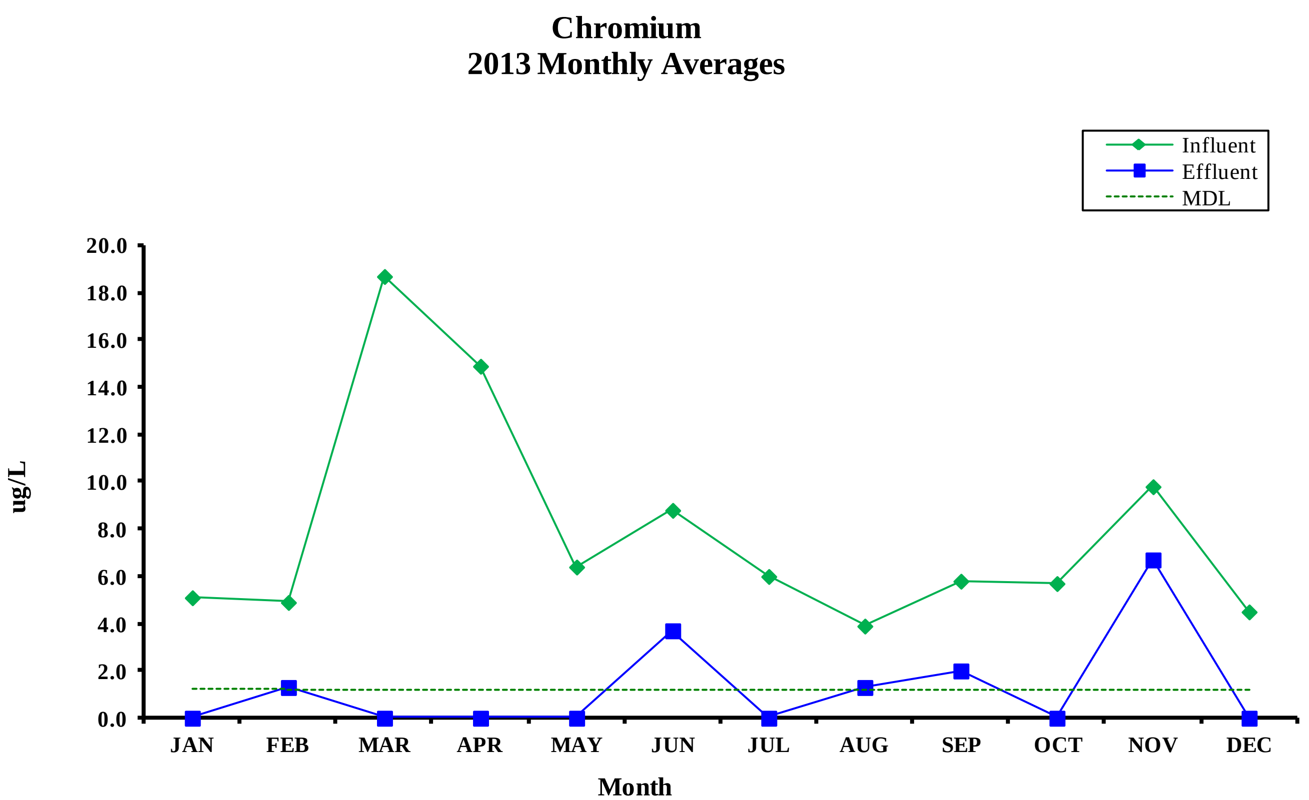


Arsenic
2013 Monthly Averages
Influent
Effluent
MDL
ug/L
3
2.5
2
1.5
1
0.5
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

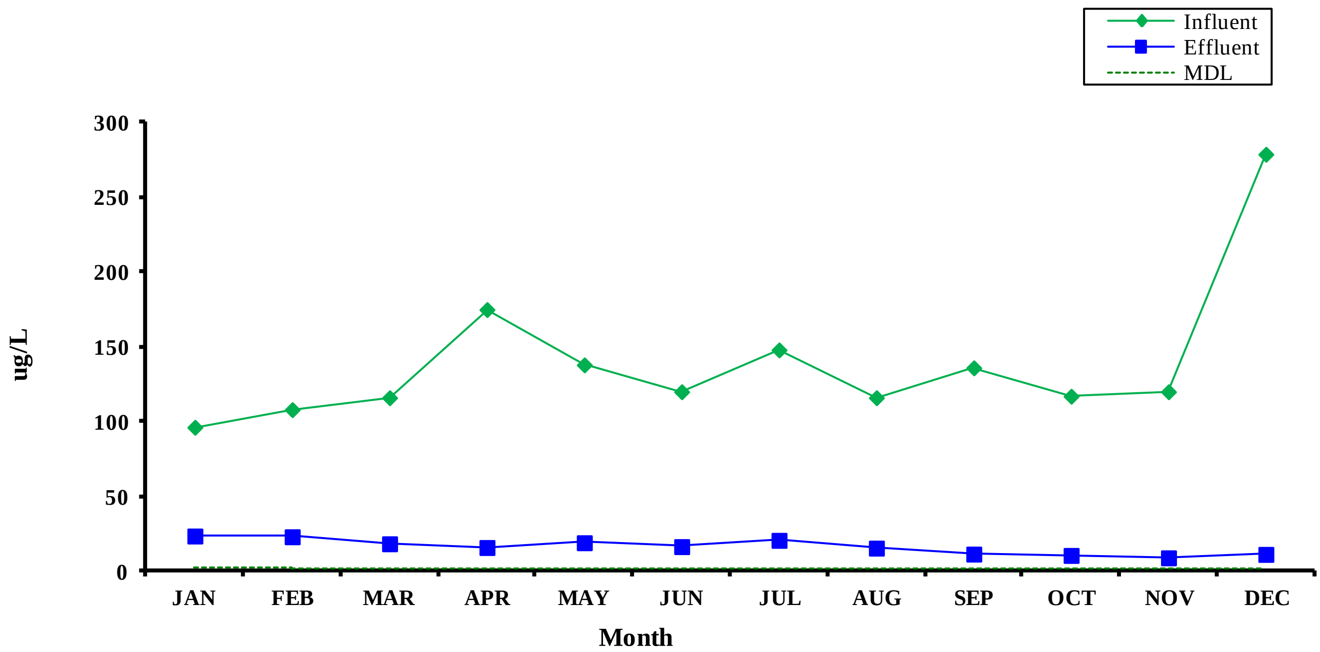


Beryllium
2013 Monthly Averages
Influent
Effluent
MDL
ug/L
0.025
0.02
0.015
0.01
0.005
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

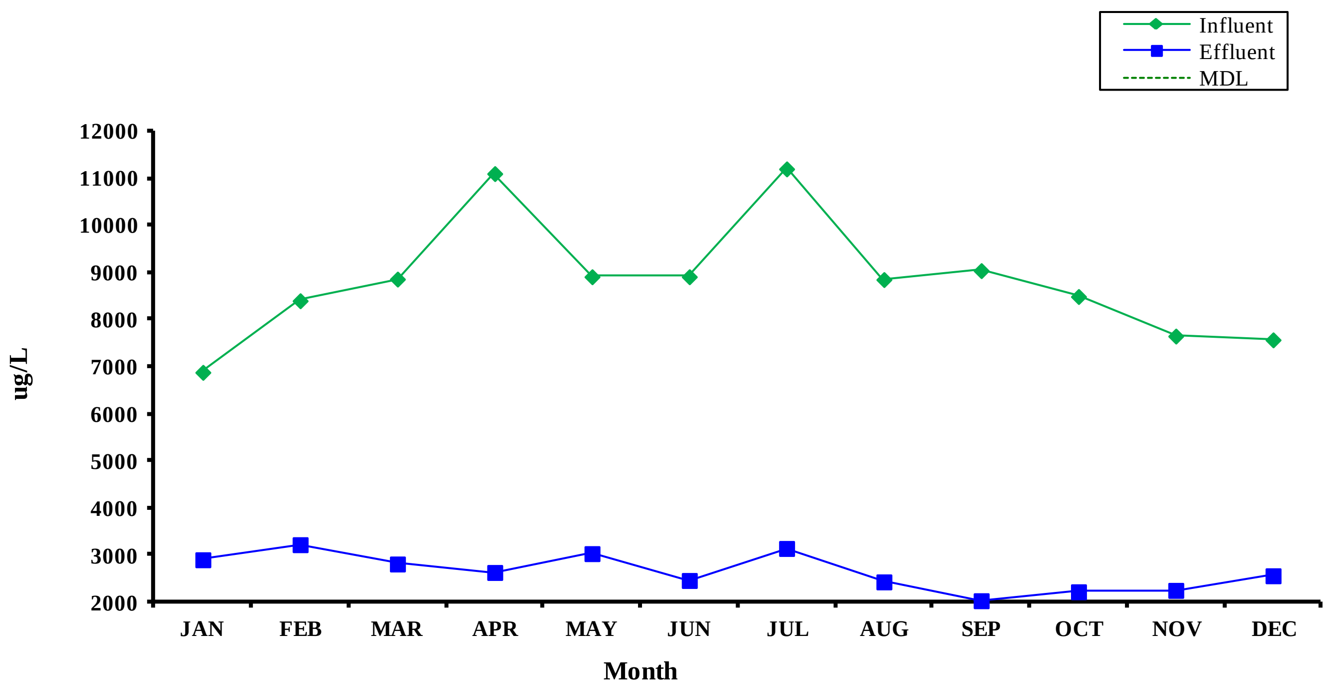

Cadmium
2013 Monthly Averages
Influent
Effluent
MDL
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

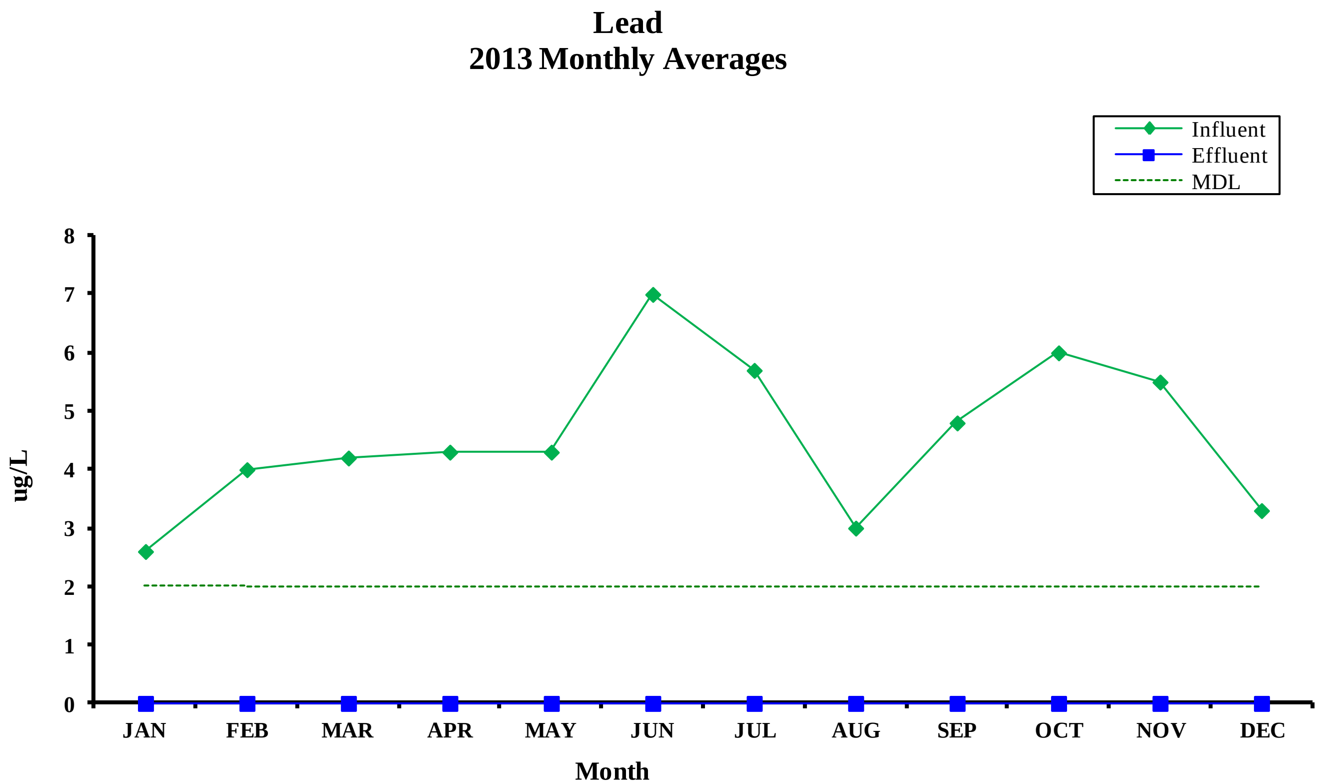

Chromium
2013 Monthly Averages
Influent
Effluent
MDL
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

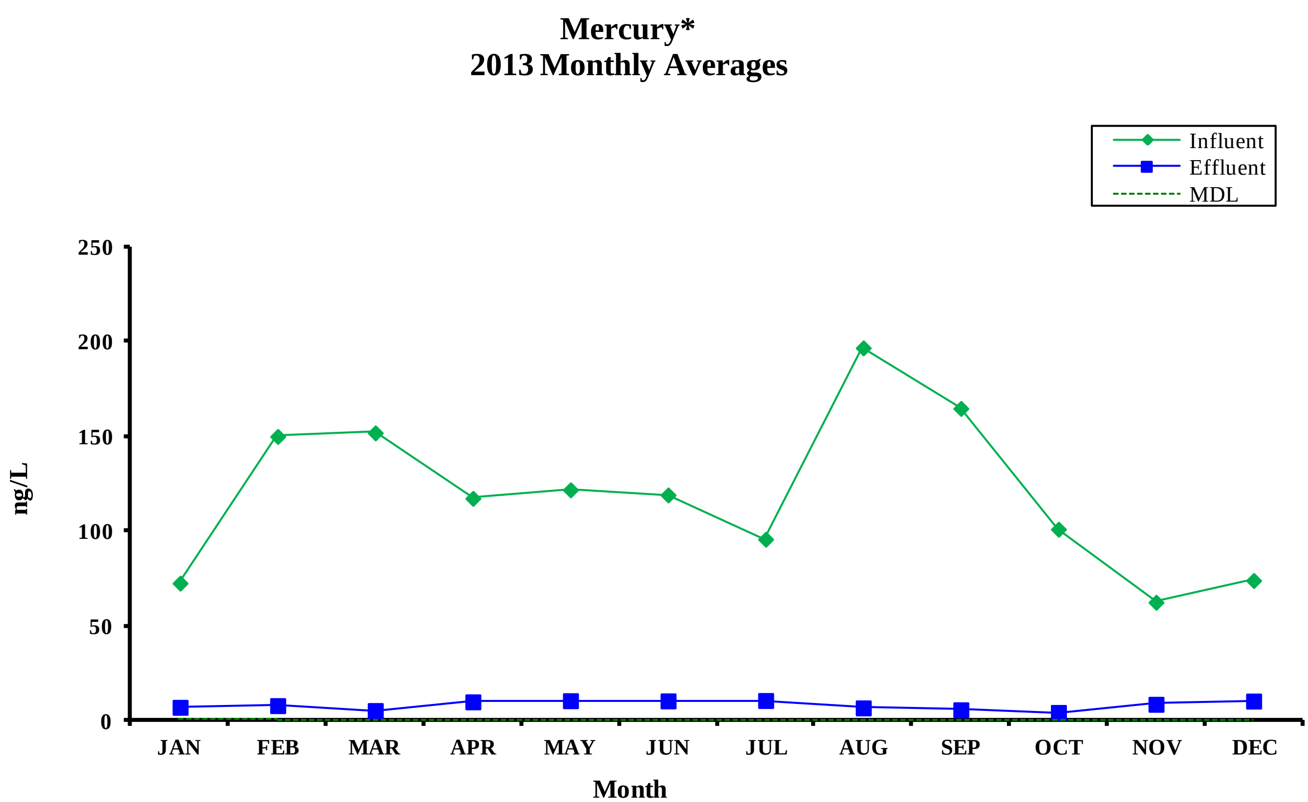
Copper
2013 Monthly Averages



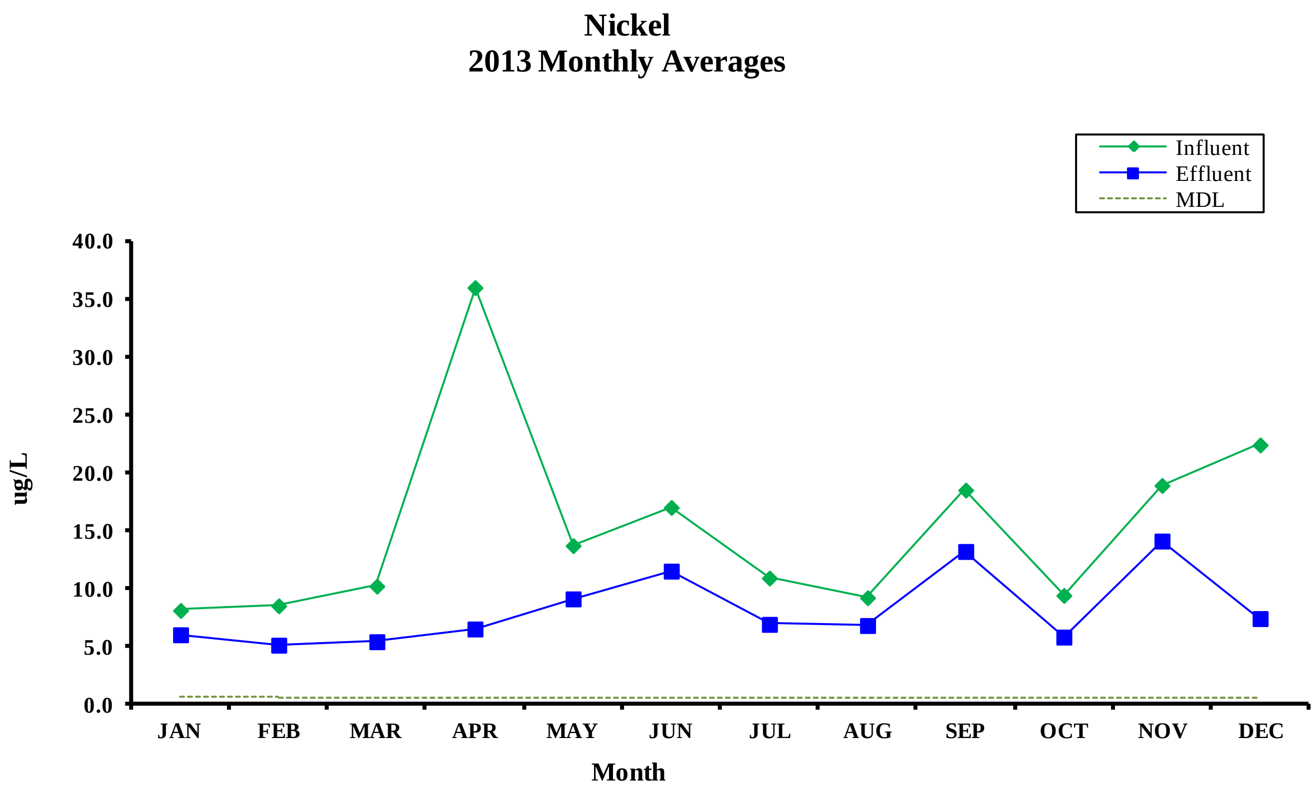
Iron
2013 Monthly Averages

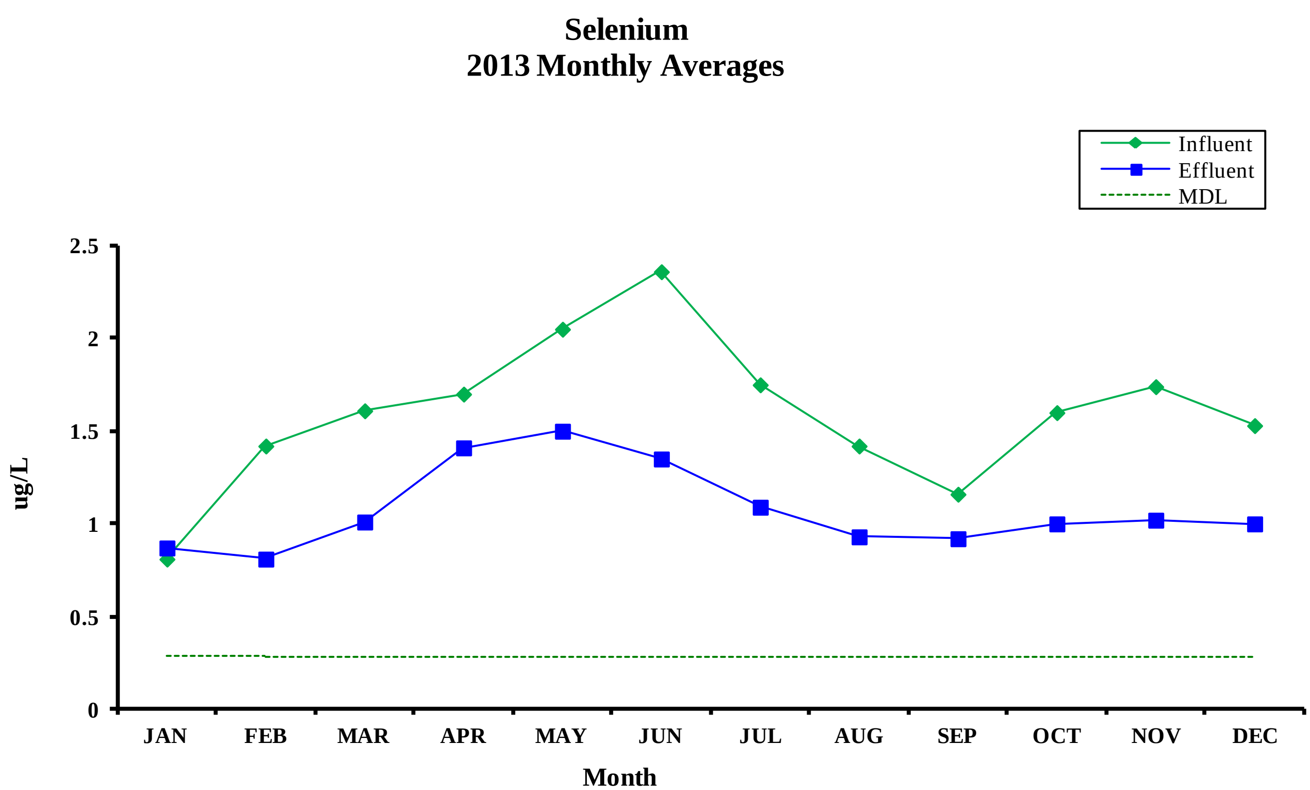




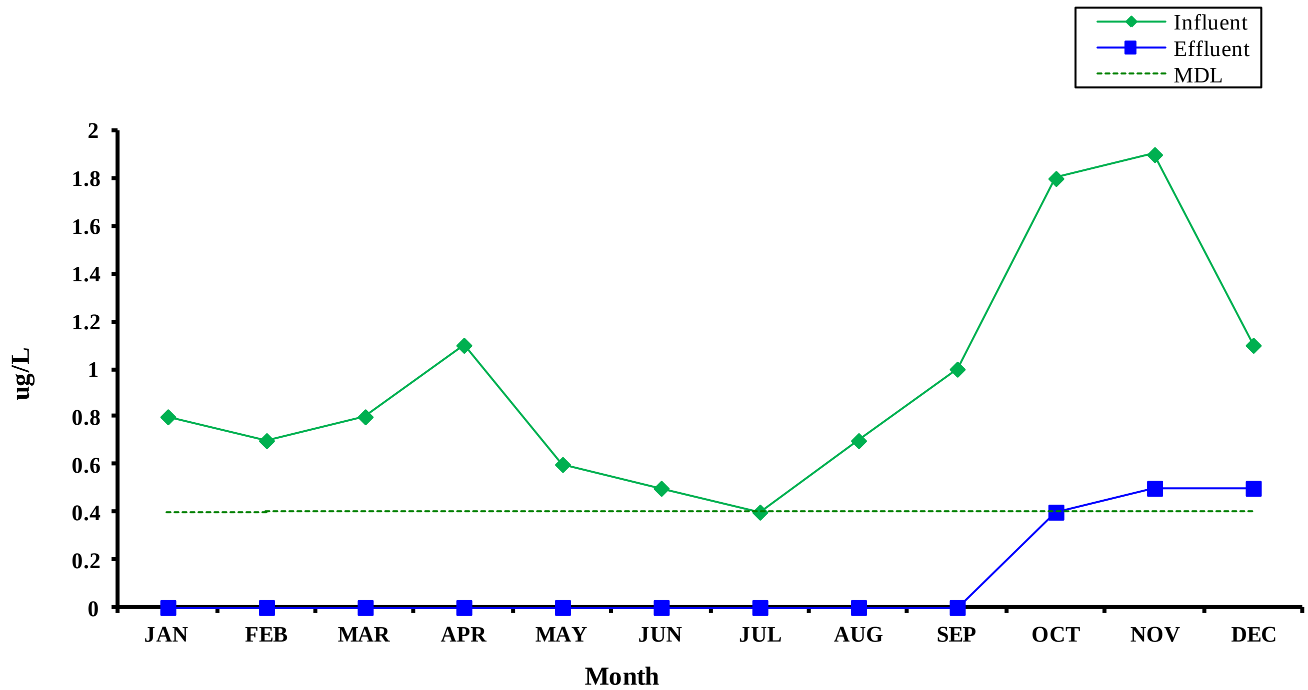


* = During the months of March, April, May, October and November The percent recovery for the spike samples were below the acceptance range of 71-125%.

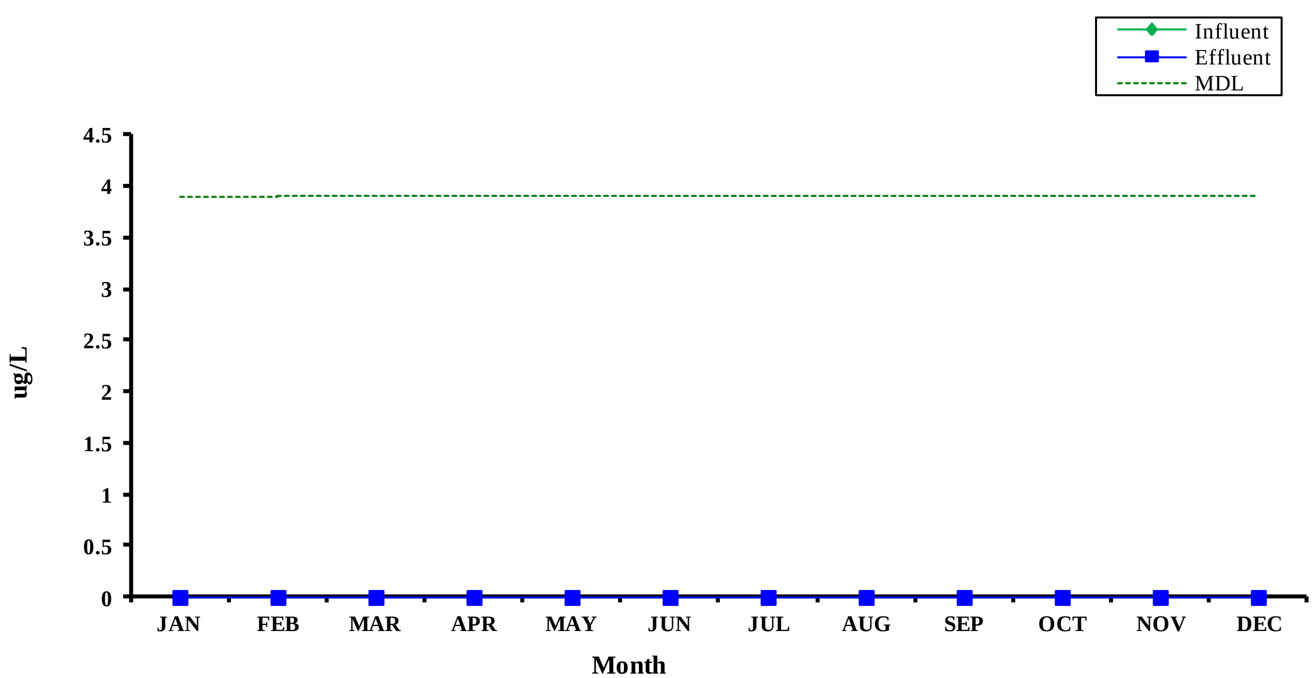

Nickel
2013 Monthly Averages
Influent
Effluent
MDL
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Selenium
2013 Monthly Averages
Influent
Effluent
MDL
2.5
2
1.5
1
0.5
0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

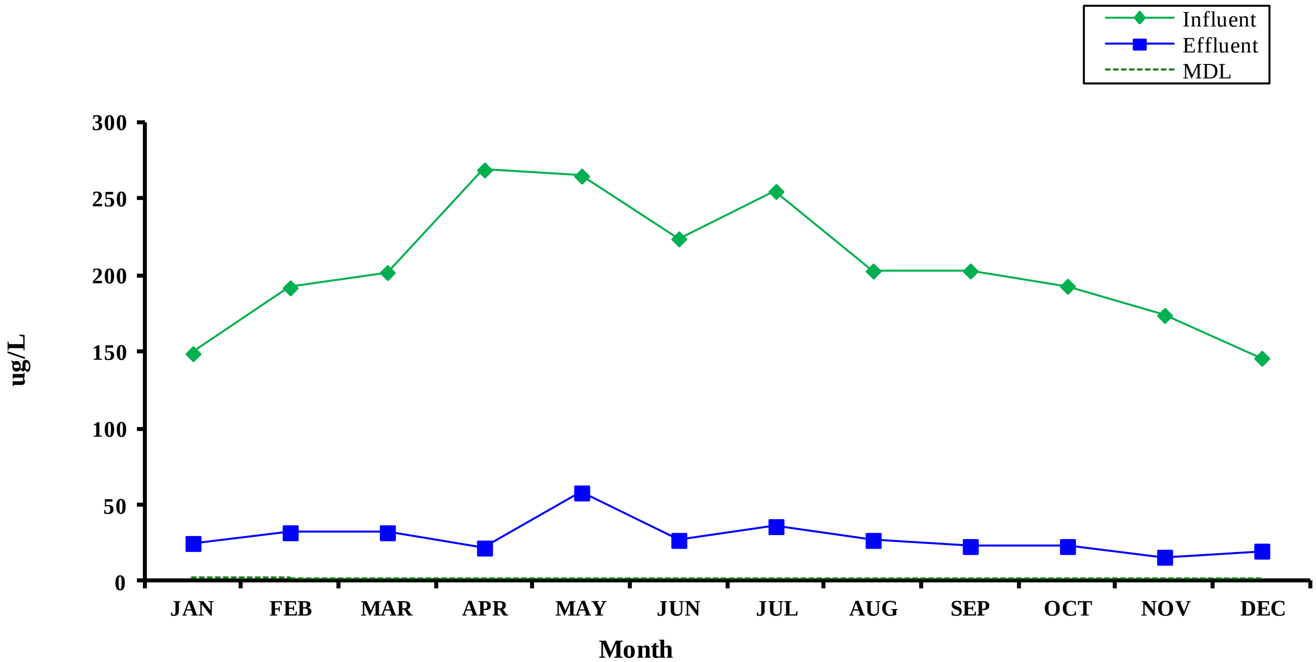
Silver
2013 Monthly Averages



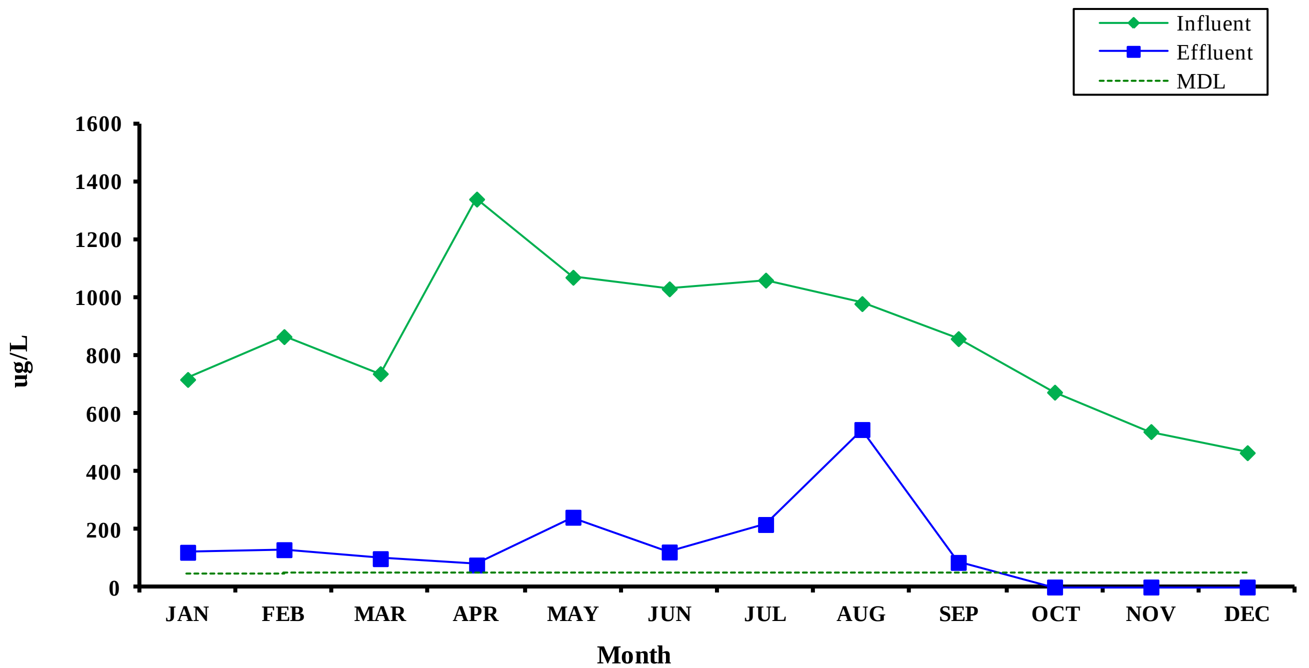
Thallium
2013 Monthly Averages



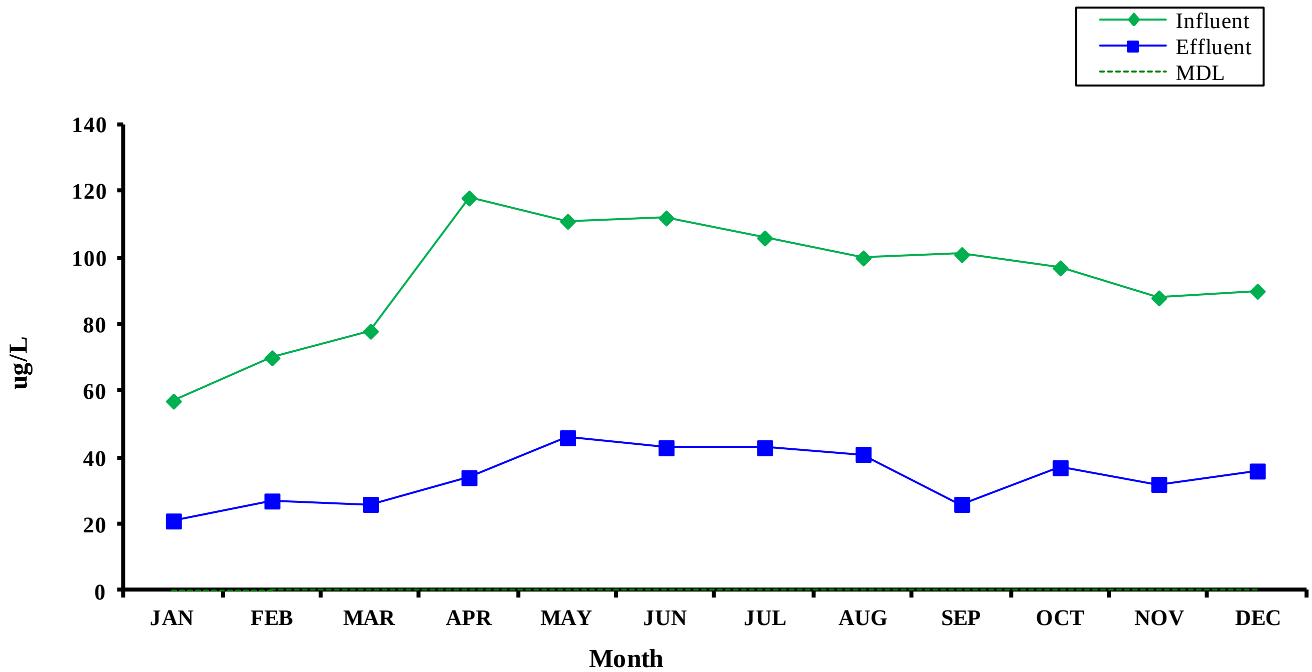
Zinc
2013 Monthly Averages



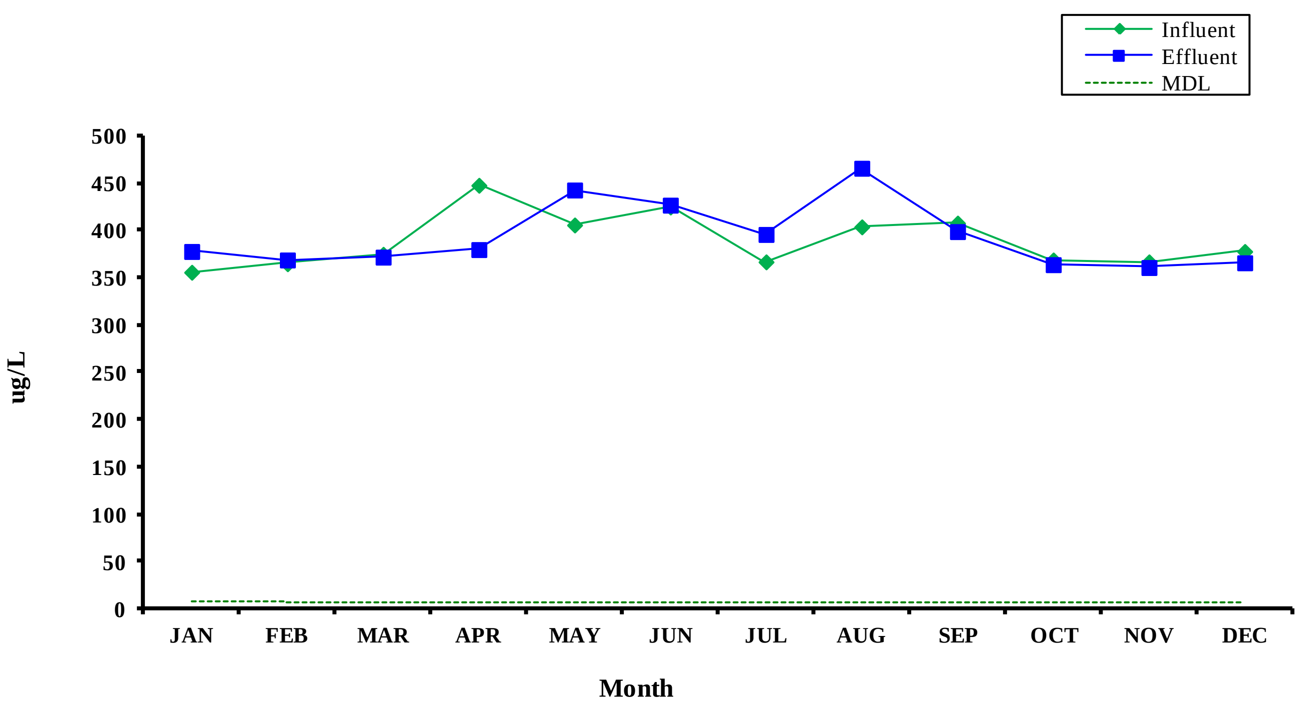
Aluminum
2013 Monthly Averages

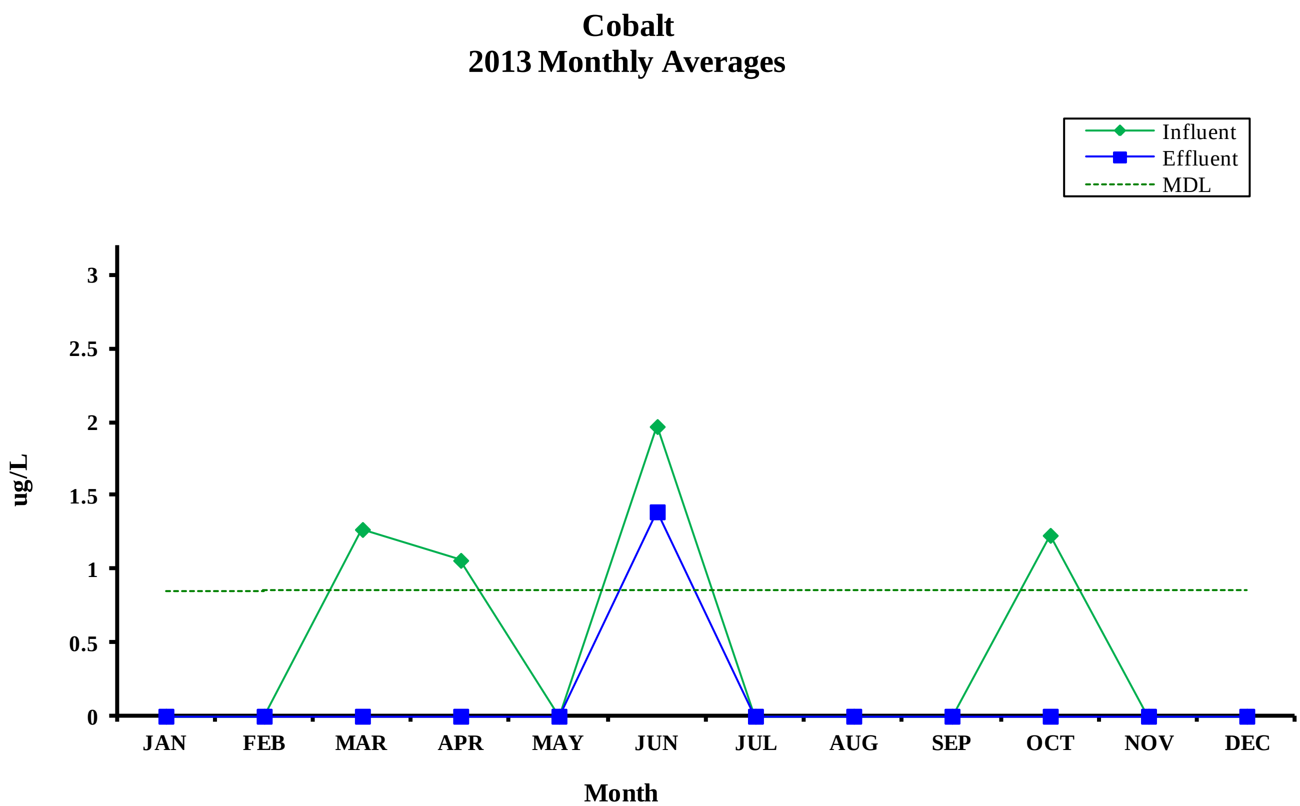


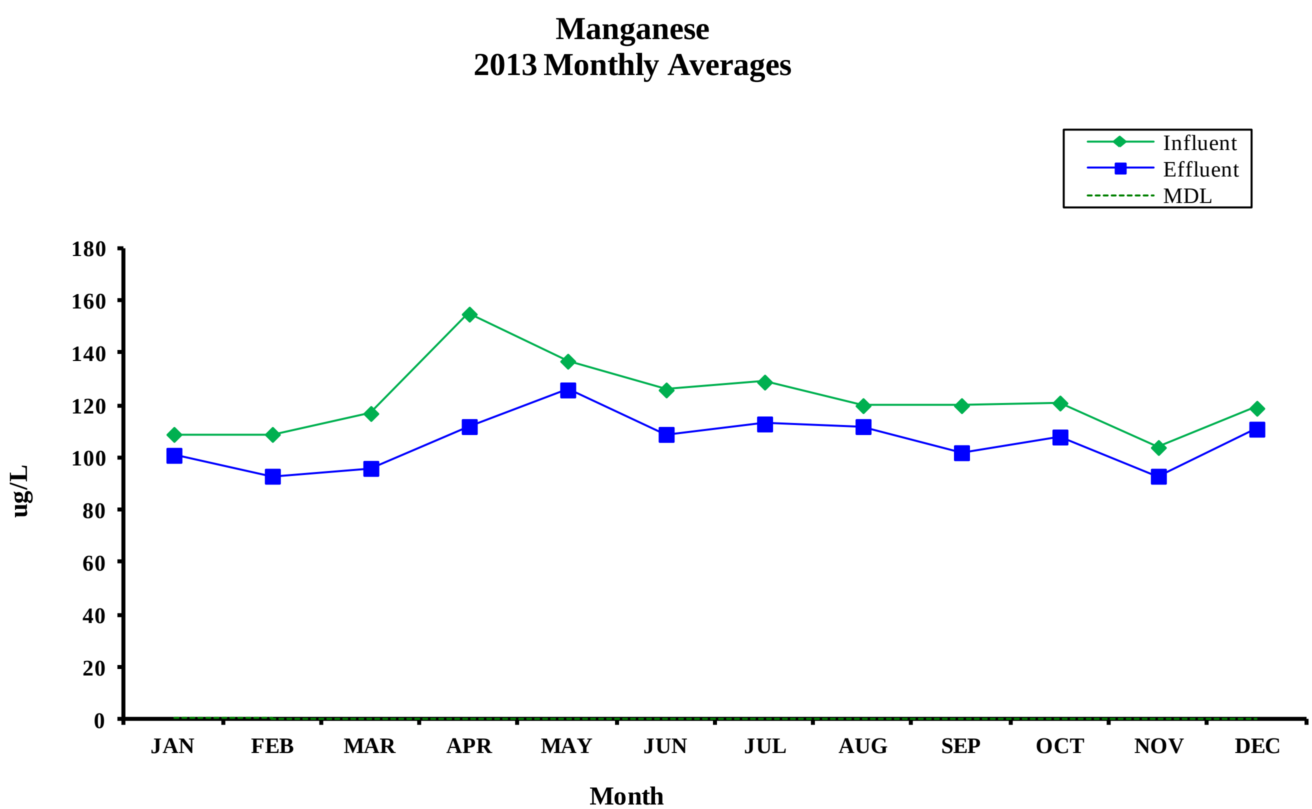
Barium
2013 Monthly Averages



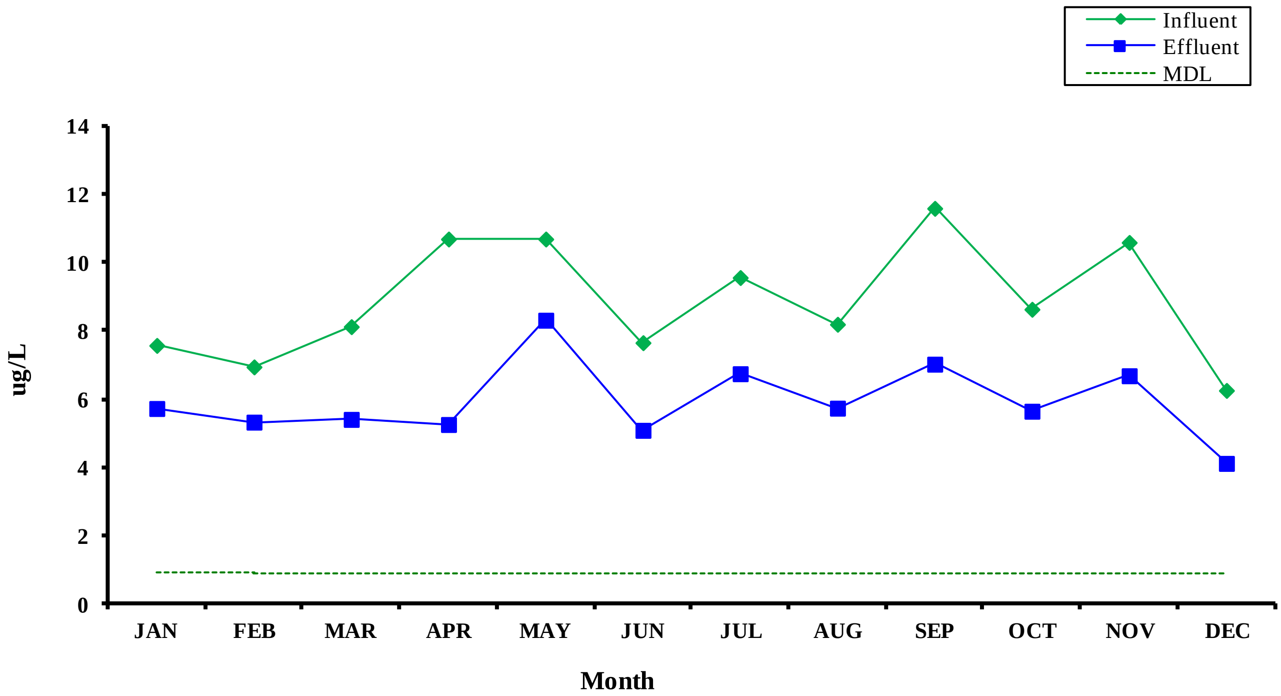
Boron
2013 Monthly Averages



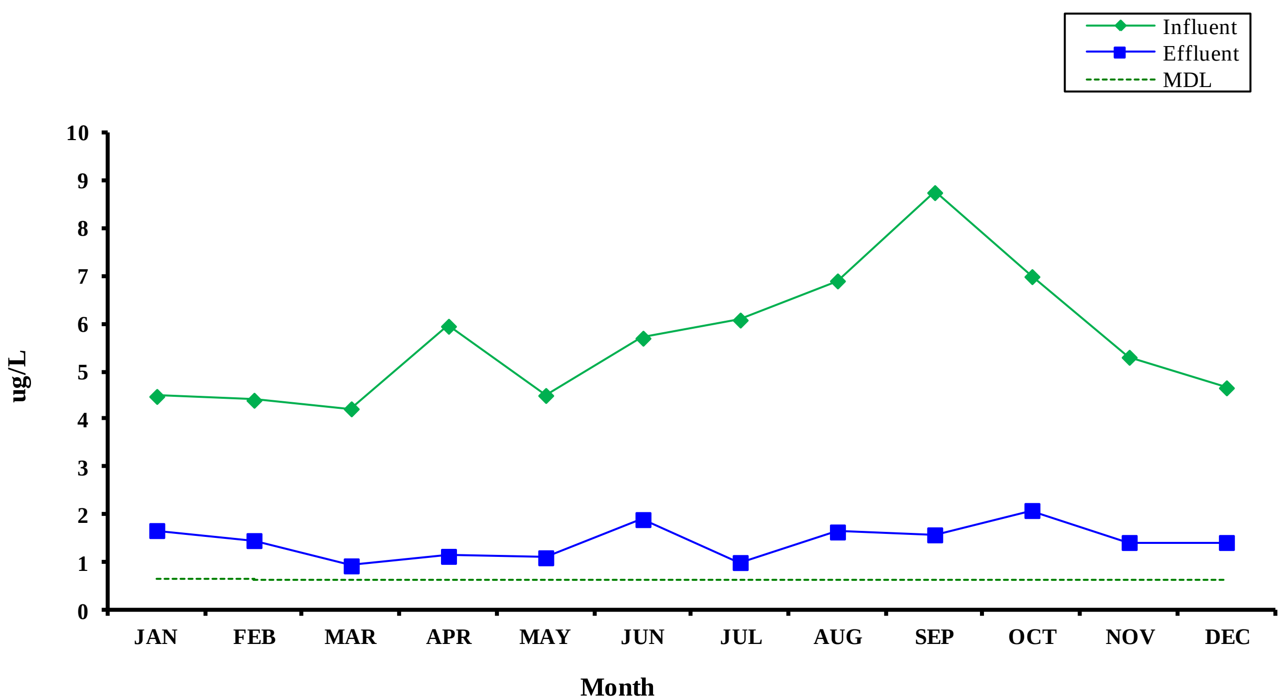

Cobalt
2013 Monthly Averages
Influent
Effluent
MDL
3
2.5
2
1.5
1
0.5
0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Manganese
2013 Monthly Averages
Influent
Effluent
MDL
180
160
140
120
100
80
60
40
20
0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

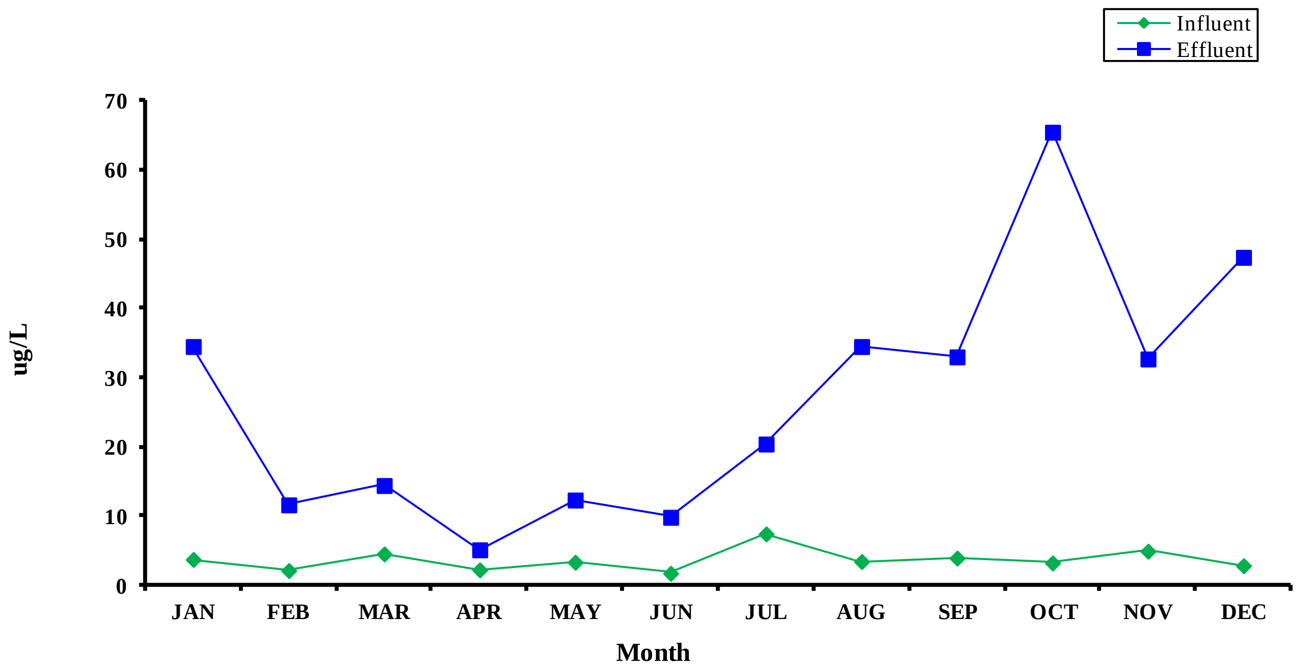
Molybdenum
2013 Monthly Averages



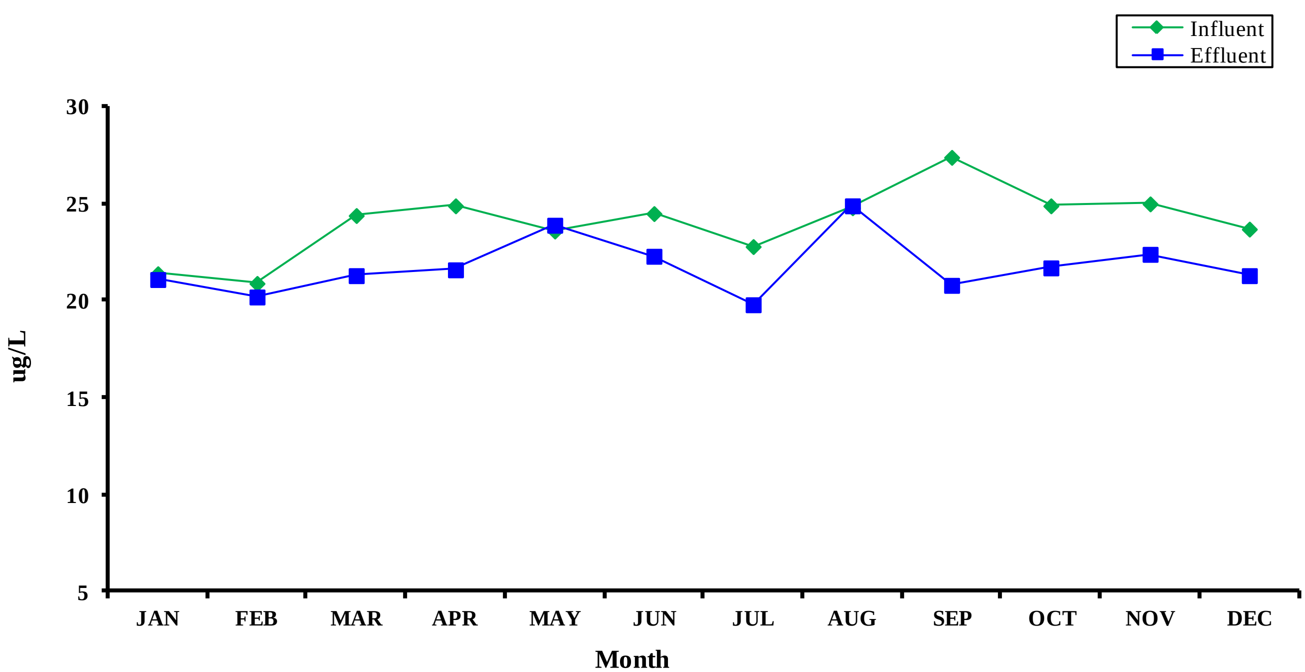
Vanadium
2013 Monthly Average

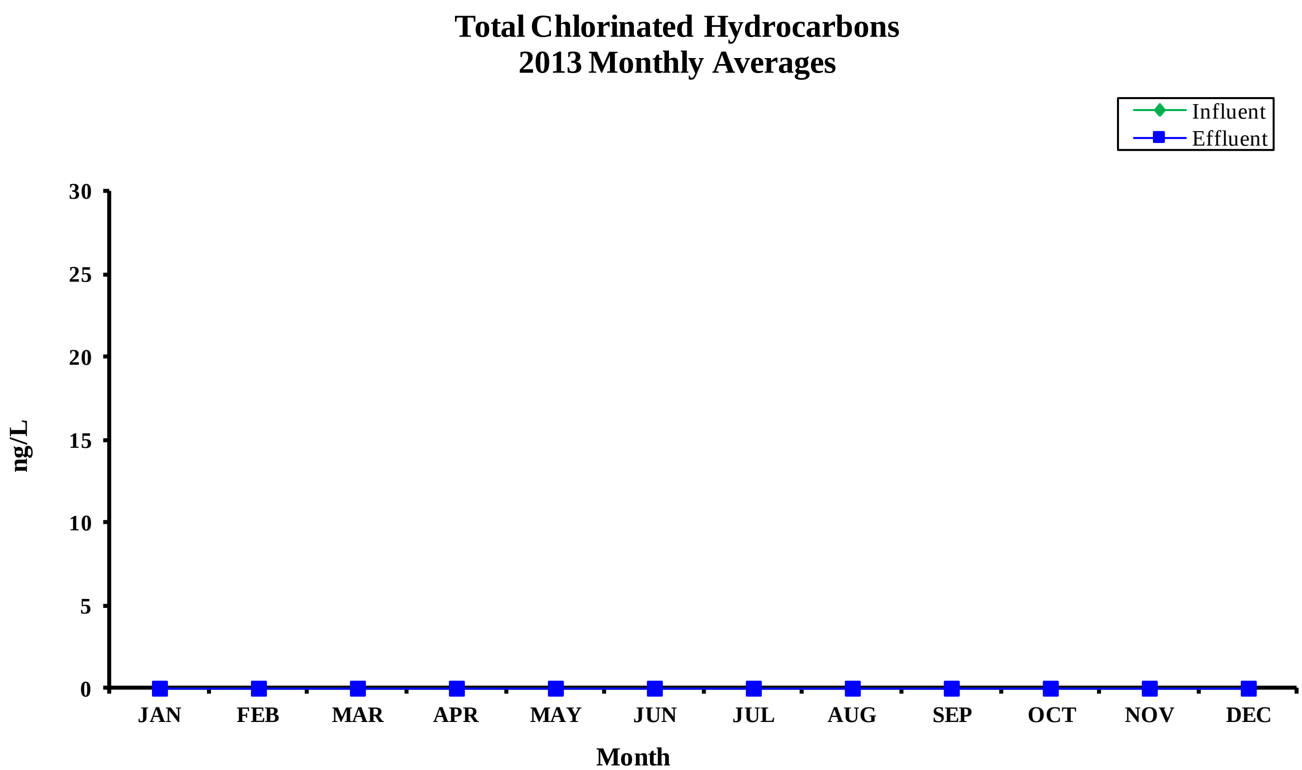


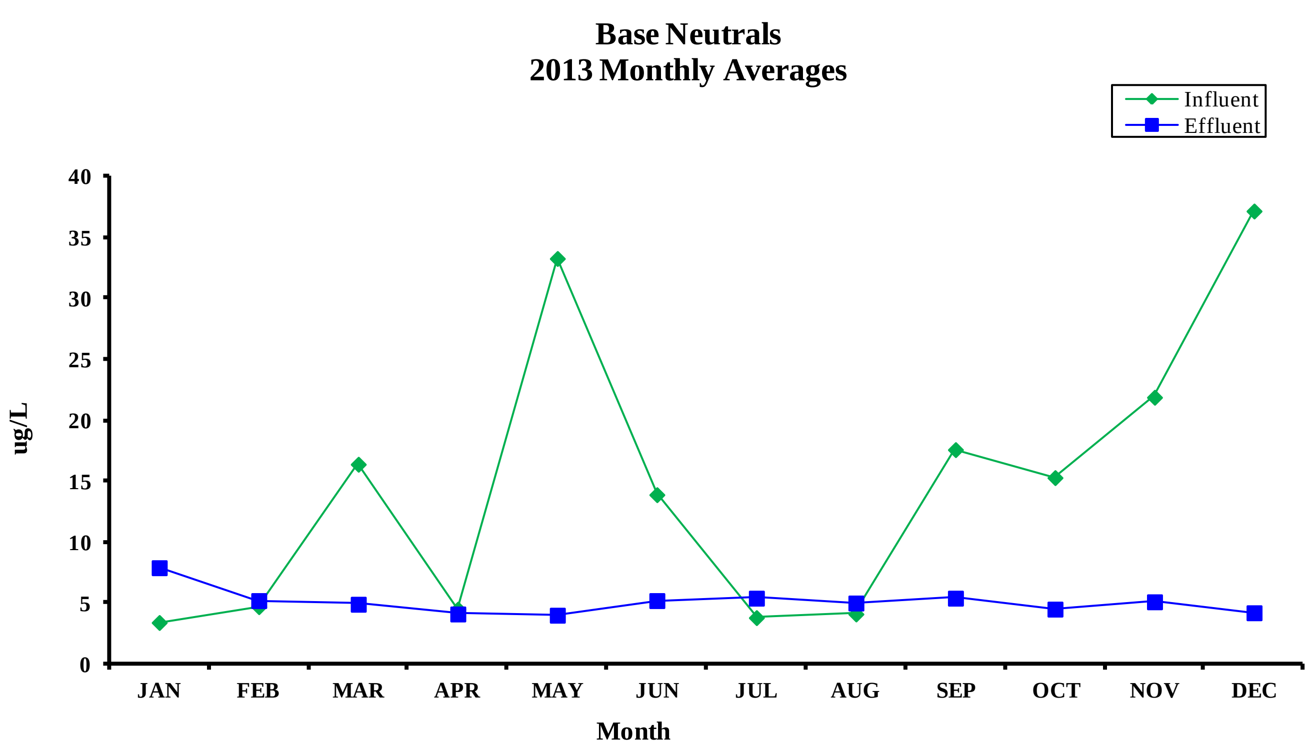
Purgeables Organic Compunds
2013 Monthly Averages

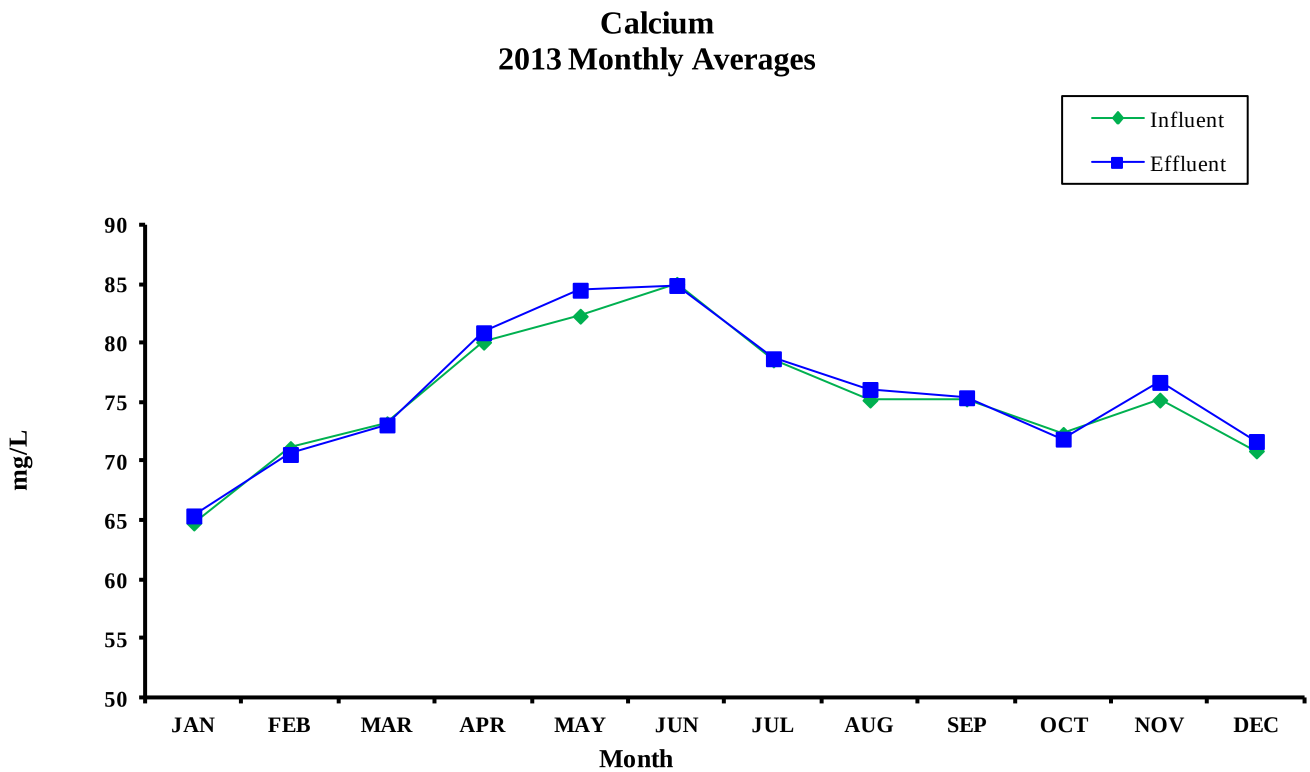


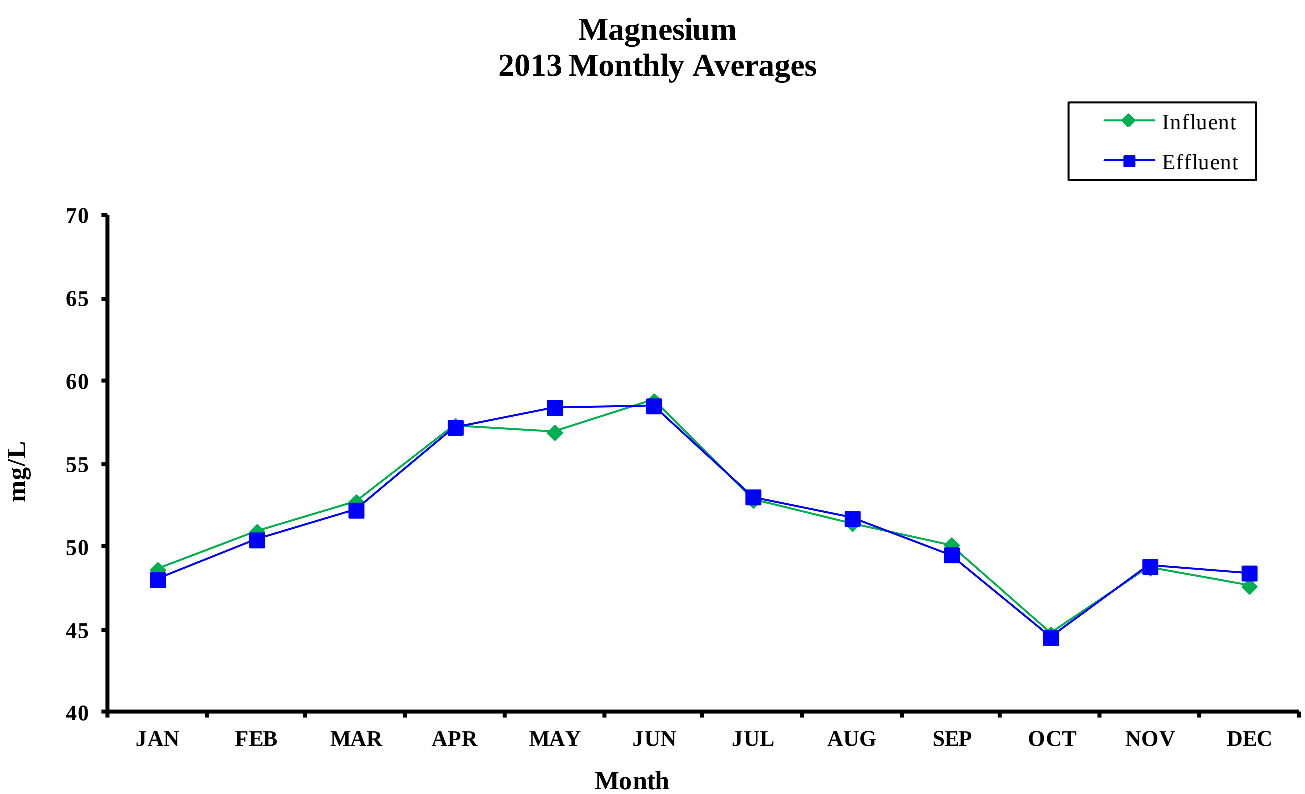
Phenols
2013 Monthly Averages

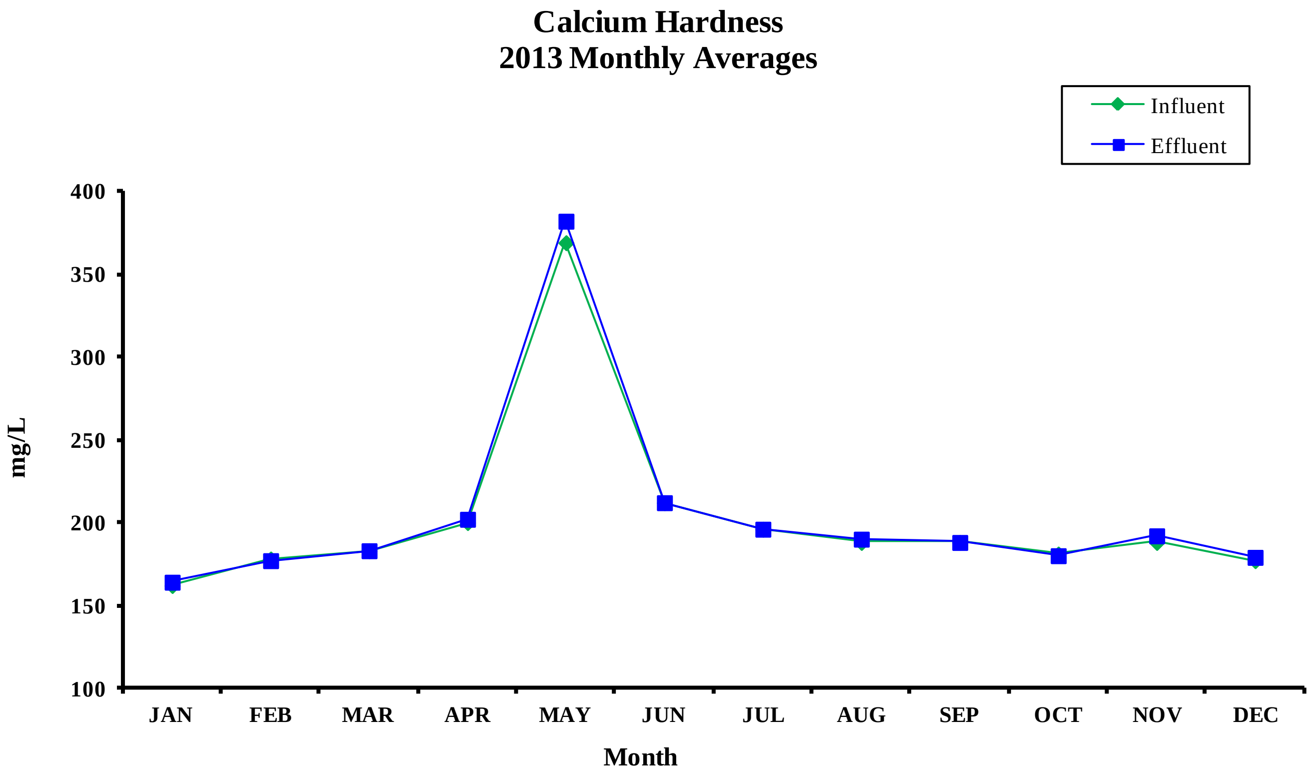


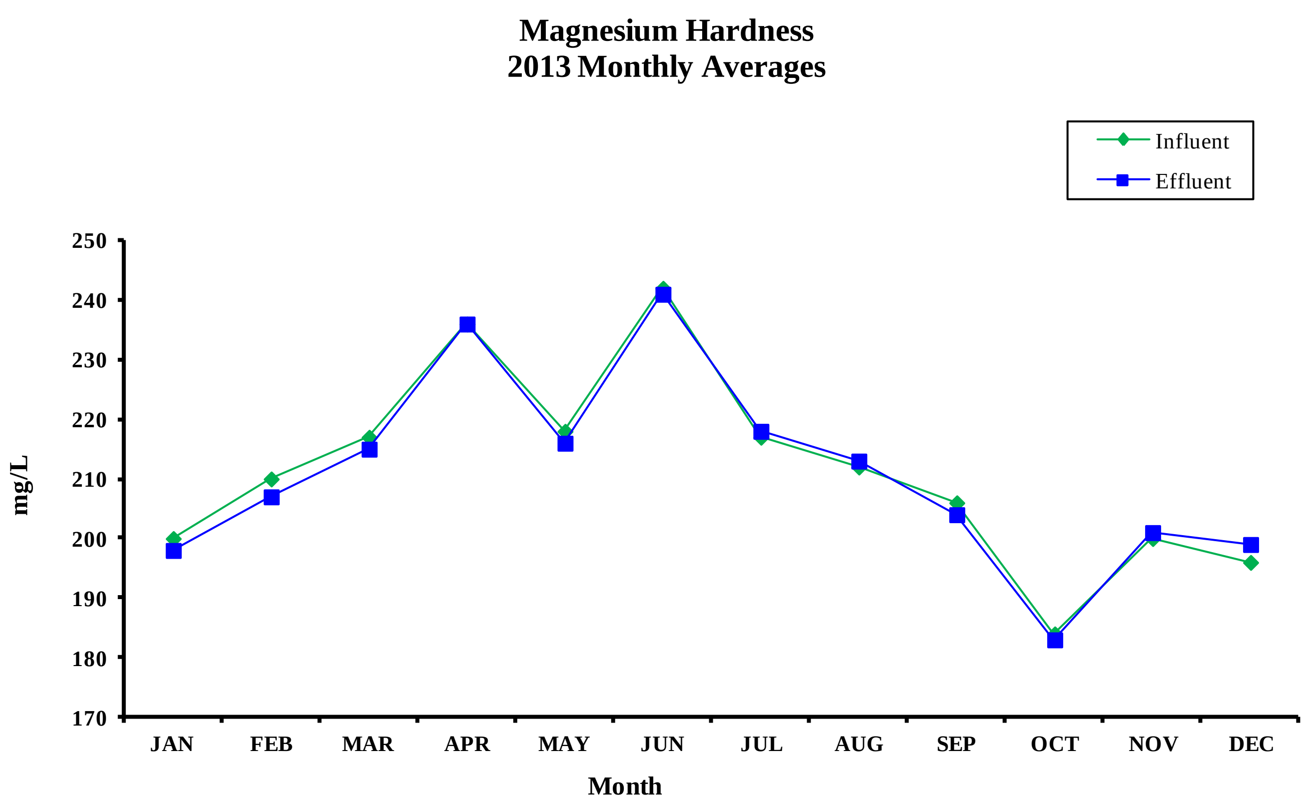

Total Chlorinated Hydrocarbons
2013 Monthly Averages
Influent
Effluent
30
25
20
15
10
5
0
ng/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Base Neutrals
2013 Monthly Averages
Influent
Effluent
40
35
30
25
20
15
10
5
0
ug/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

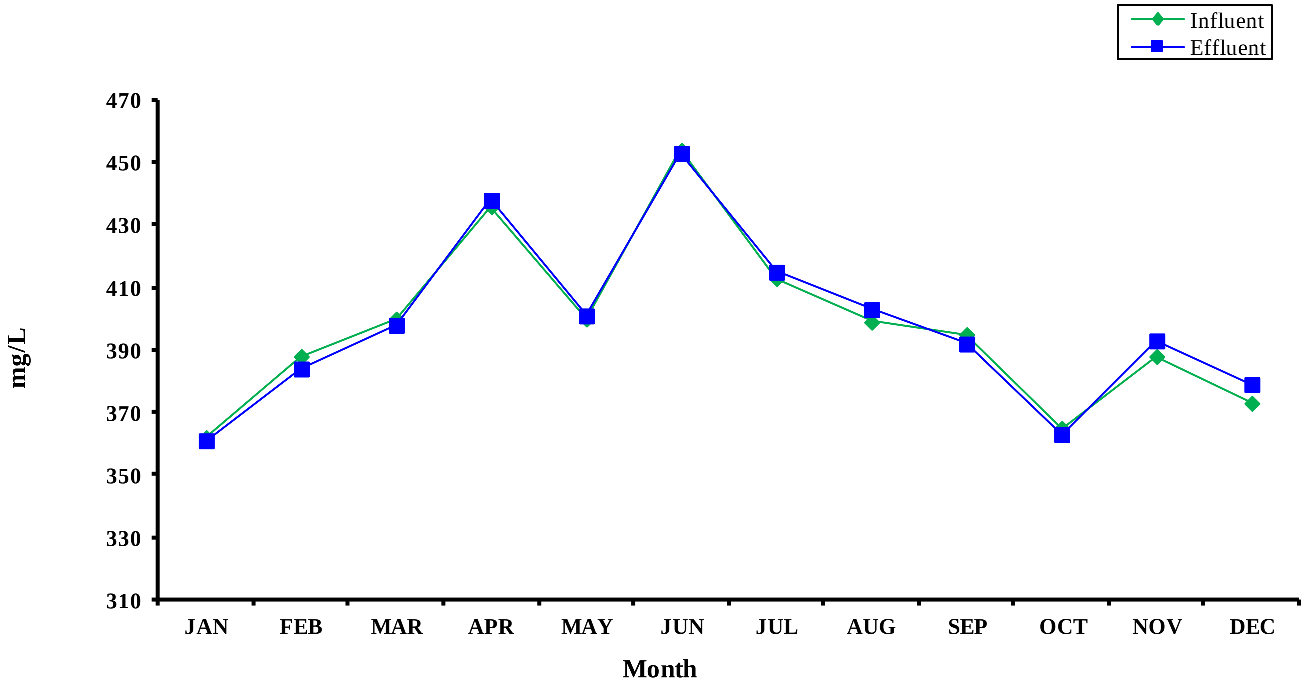

Calcium
2013 Monthly Averages
Influent
Effluent
90
85
80
75
70
65
60
55
50
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Magnesium
2013 Monthly Averages
Influent
Effluent
70
65
60
55
50
45
40
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

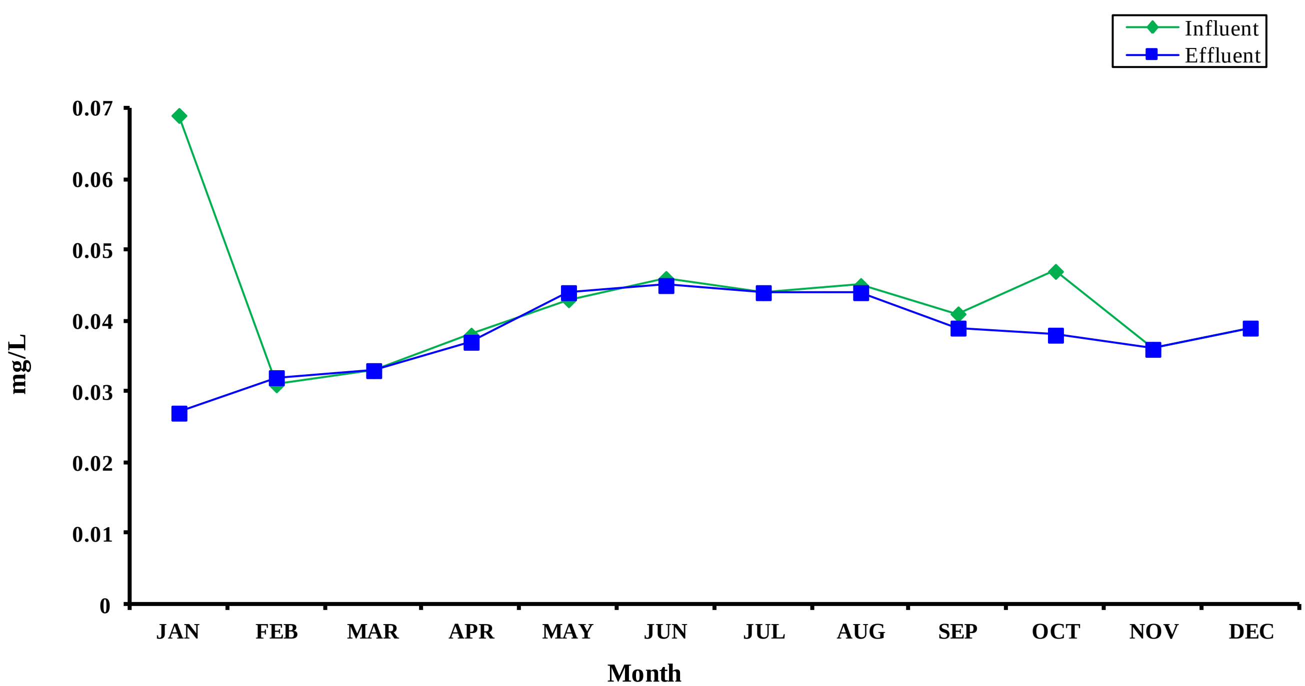

Calcium Hardness
2013 Monthly Averages
Influent
Effluent
400
350
300
250
200
150
100
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Magnesium Hardness
2013 Monthly Averages
Influent
Effluent
250
240
230
220
210
200
190
180
170
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

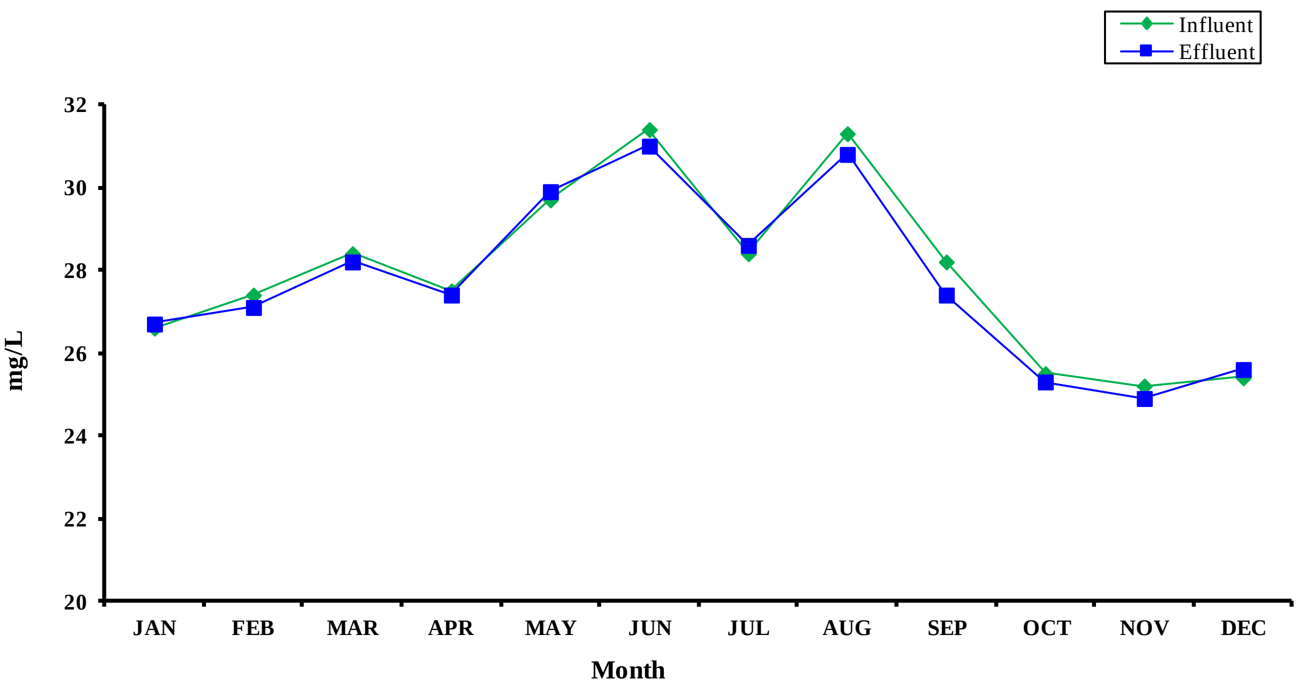
Total Hardness
2013 Monthly Averages



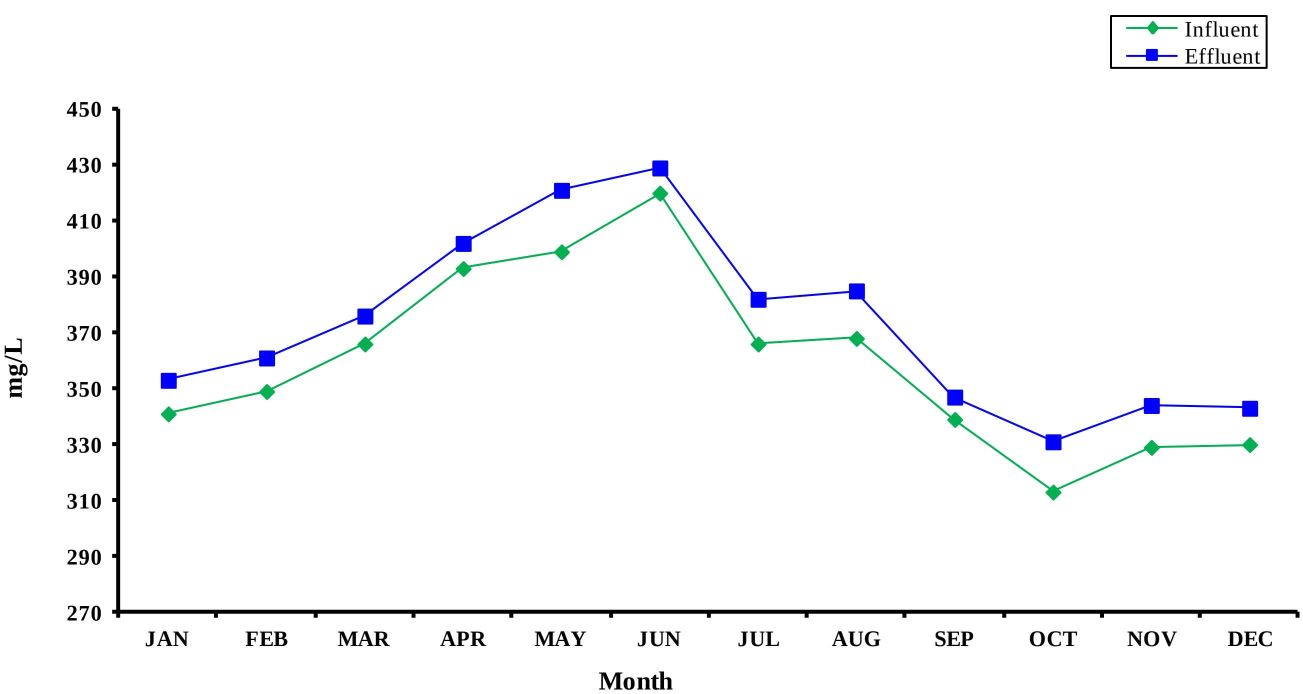
Lithium
2013 Monthly Averages

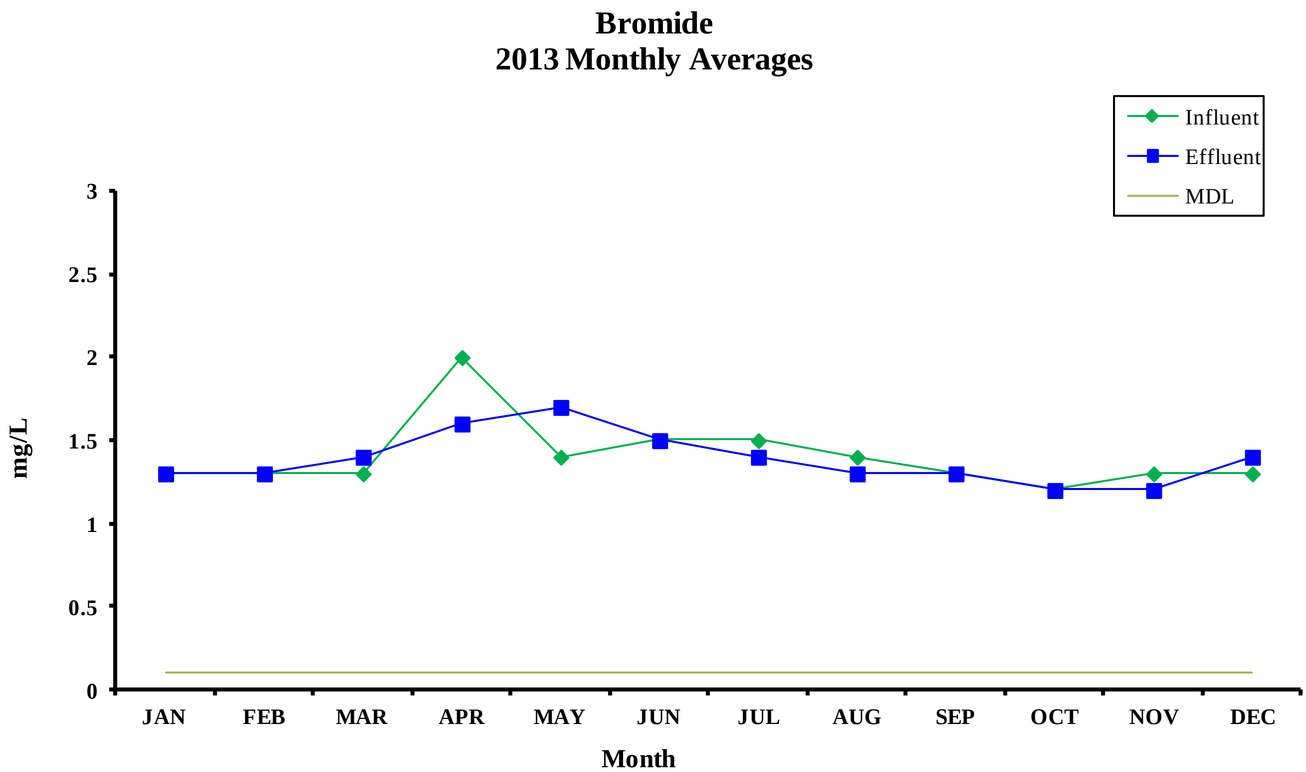


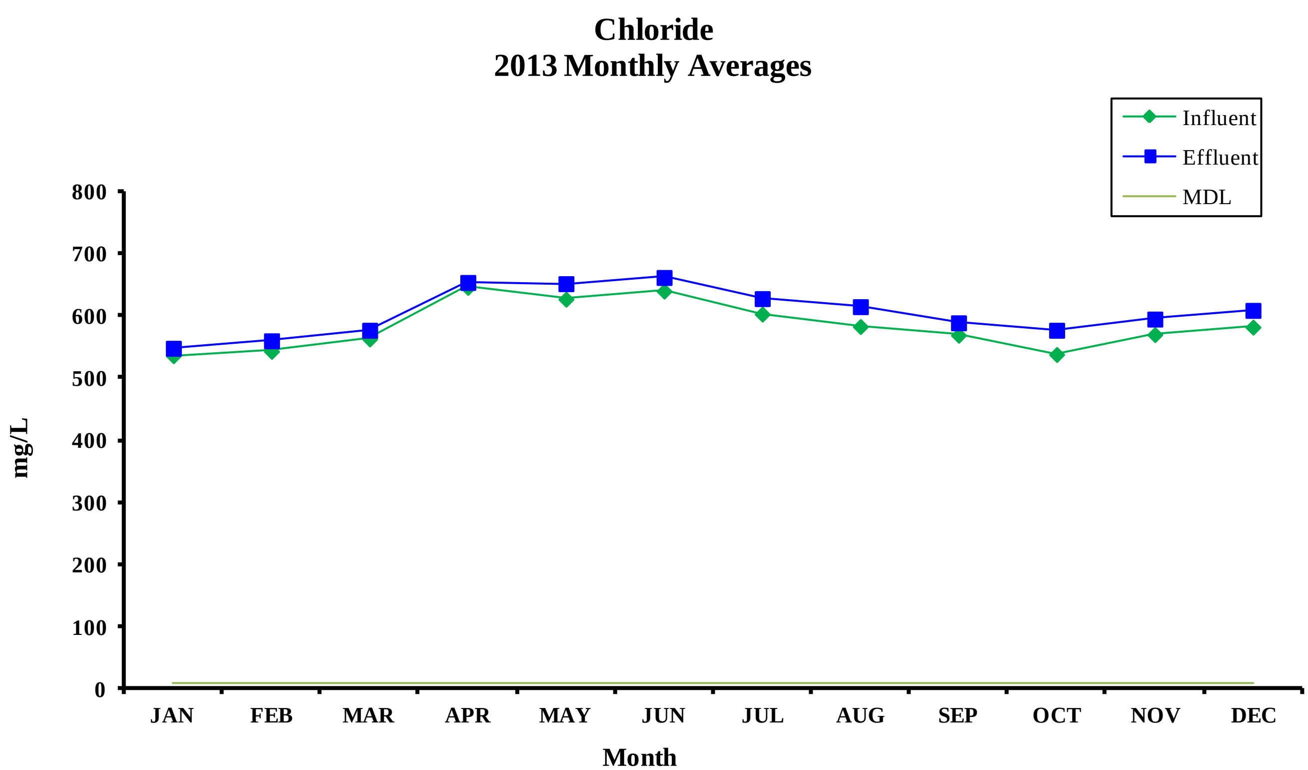
Potassium
2013 Monthly Averages



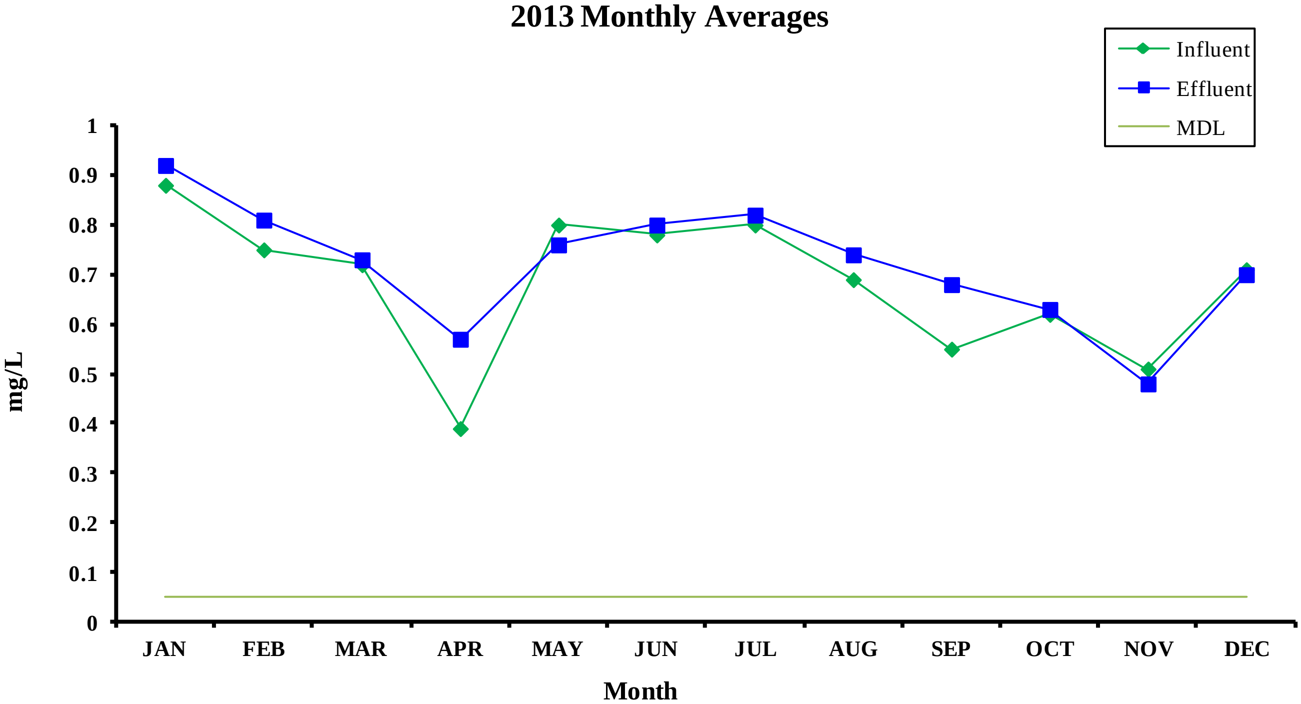
Sodium
2013 Monthly Averages



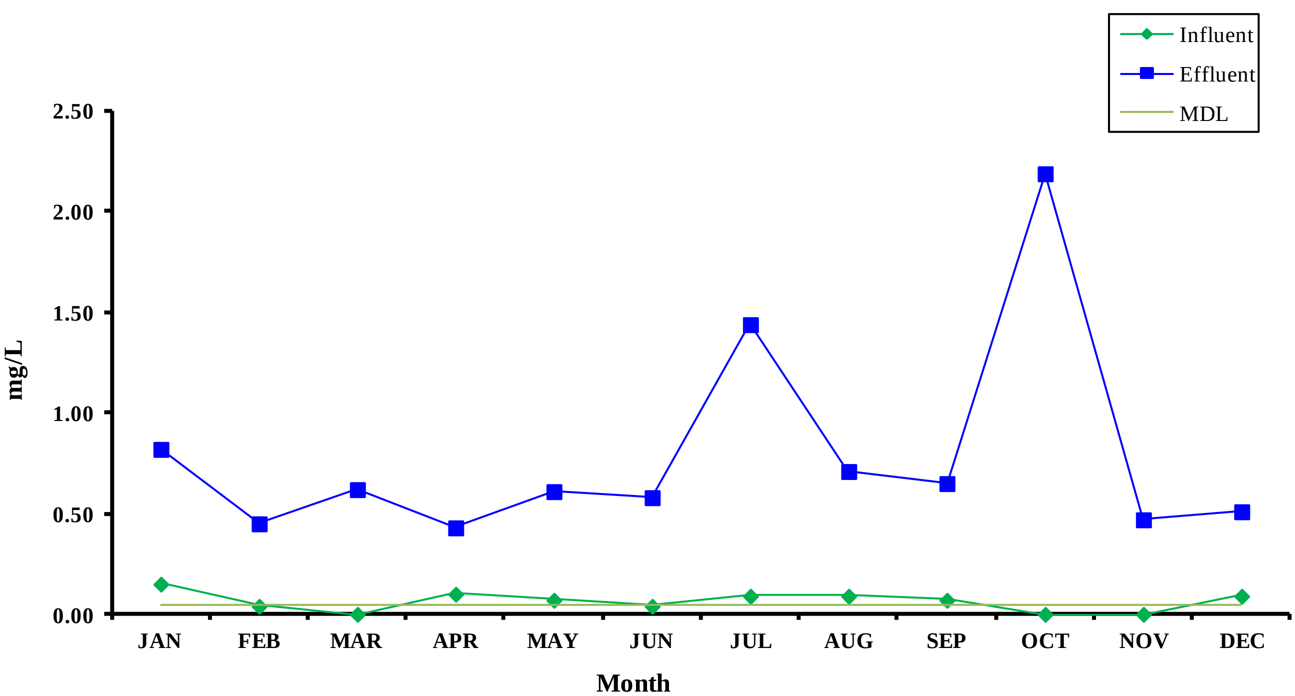

Bromide
2013 Monthly Averages
Influent
Effluent
MDL
mg/L
3
2.5
2
1.5
1
0.5
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

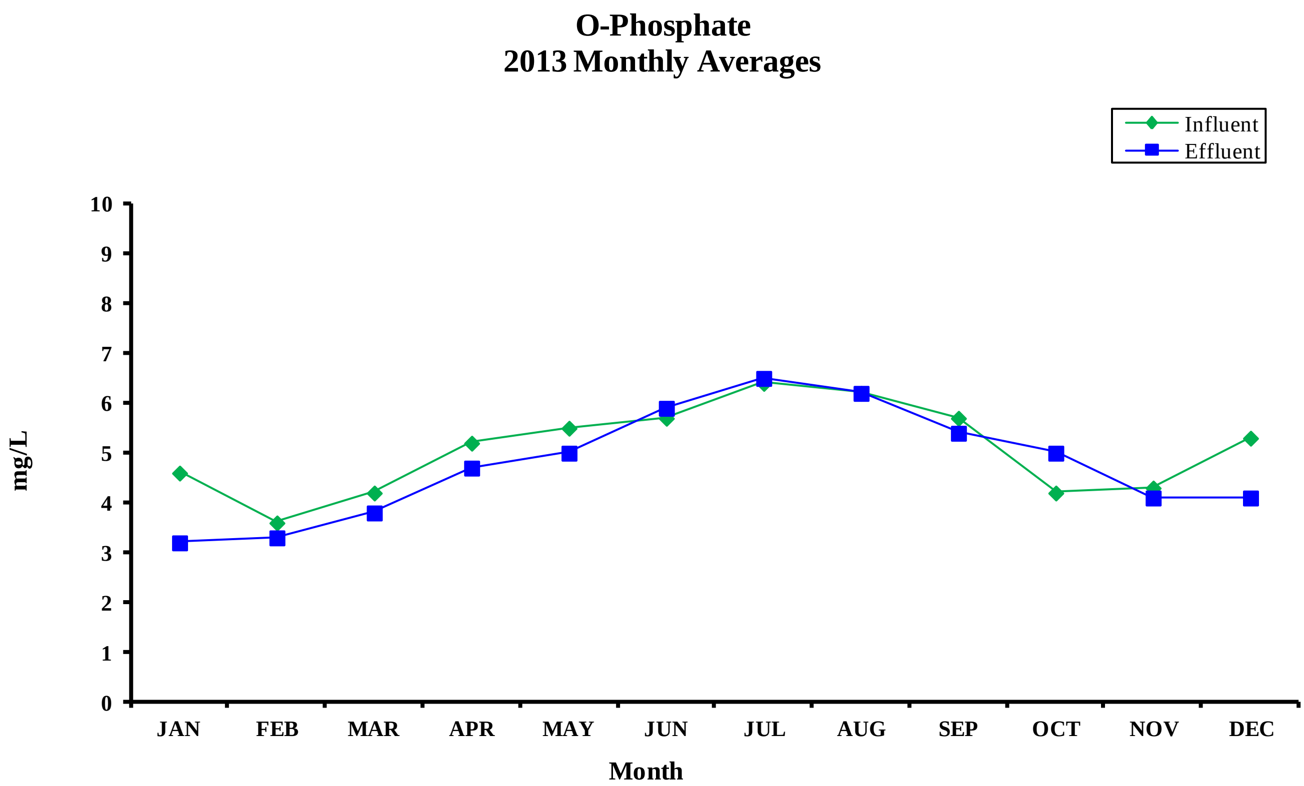

Chloride
2013 Monthly Averages
Influent
Effluent
MDL
mg/L
800
700
600
500
400
300
200
100
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

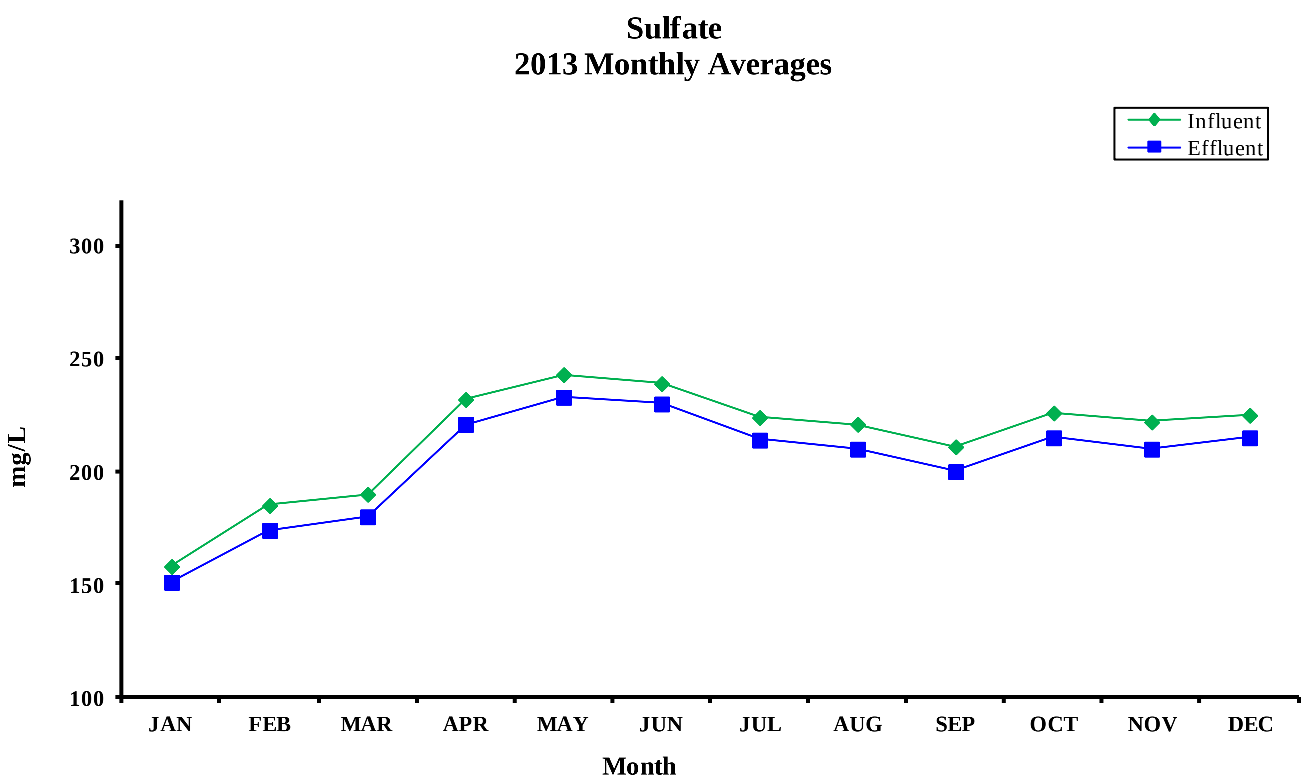
Fluoride
2013 Monthly Averages



Nitrate
2013 Monthly Averages



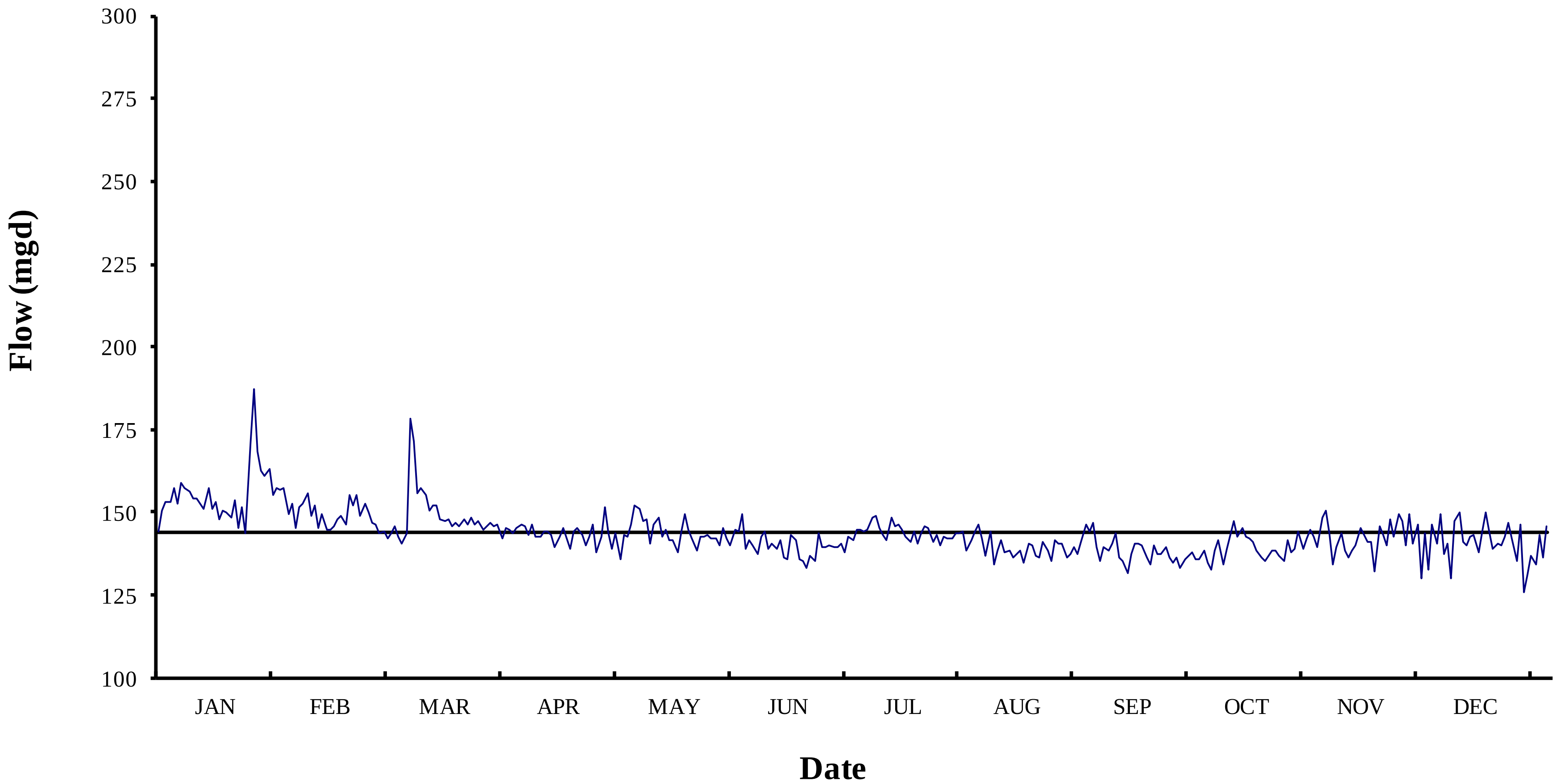

O-Phosphate
2013 Monthly Averages
Influent
Effluent
10
9
8
7
6
5
4
3
2
1
0
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Sulfate
2013 Monthly Averages
Influent
Effluent
300
250
200
150
100
mg/L
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

E. Daily Values of Selected Parameters

Daily values and statistical summaries of selected parameters (e.g. TSS, Flow, TSS Removals, etc.) are tabulated and presented graphically. The straight horizontal lines on the graphs in this section represent annual means for the constituent.

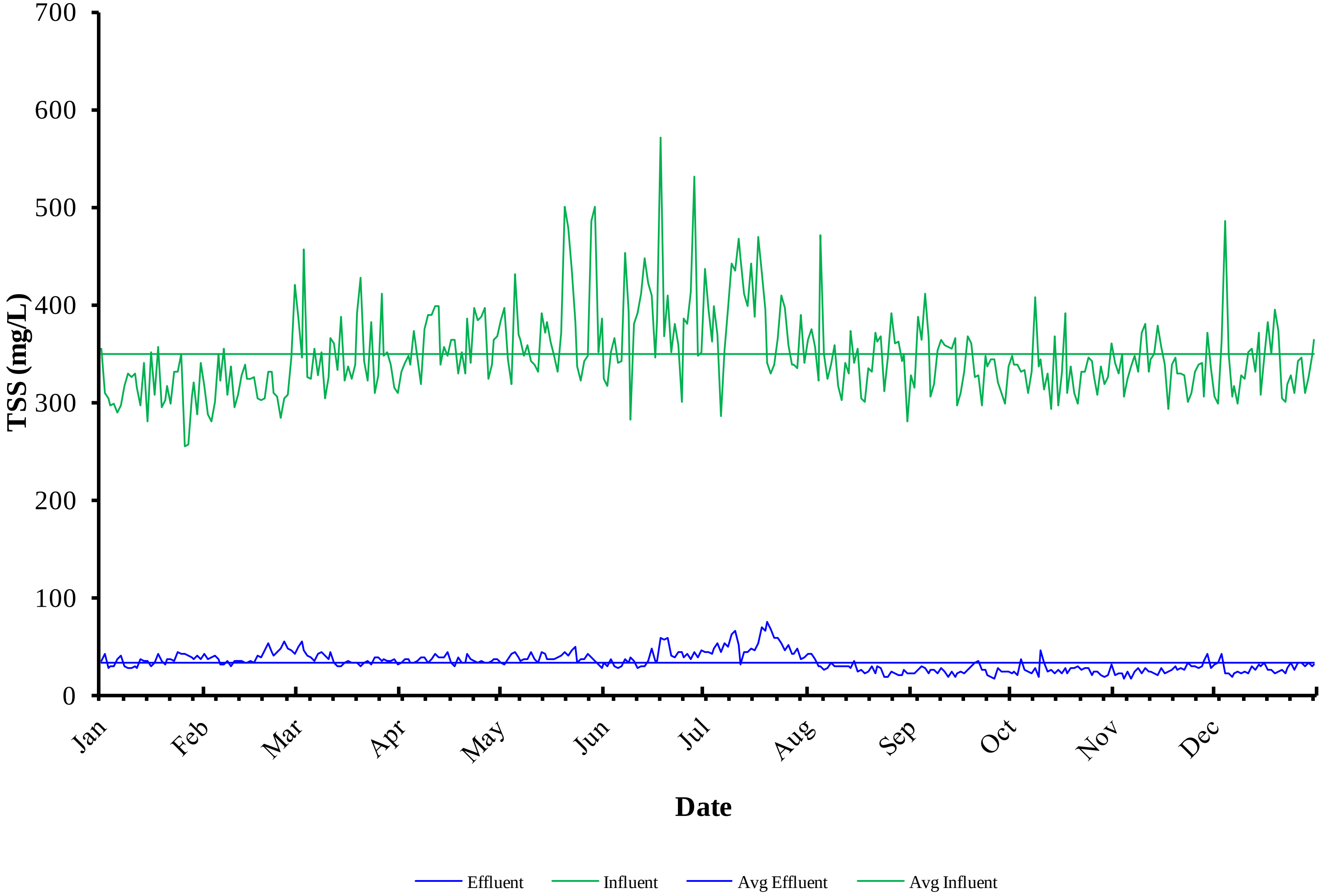
Point Loma Wastewater Treatment Plant
2013 Daily Flows (mgd)



Point Loma Wastewater Treatment Plant
2013 Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	144.1	157.6	144.1	142.1	143.6	144.6	142.8	138.6	146.1	135.7	139.6	146.6	
2	150.6	156.6	142.1	145.1	136.0	144.1	141.6	141.6	144.1	138.2	148.6	140.5	
3	153.1	157.1	143.6	144.6	143.1	149.5	144.7	144.1	146.7	134.5	150.6	149.3	
4	153.1	149.6	145.6	143.6	142.6	139.0	144.6	146.1	139.6	132.9	143.7	137.6	
5	157.6	152.6	142.6	145.1	146.1	141.6	144.1	142.1	135.5	138.6	134.3	140.4	
6	152.6	145.3	140.6	146.6	152.1	140.1	144.6	137.1	139.5	141.4	139.6	130.1	
7	159.1	151.6	143.6	145.6	151.2	137.3	148.6	144.1	138.5	134.1	143.8	147.6	
8	157.6	152.6	178.5	143.1	147.4	142.6	148.9	134.4	140.6	138.8	138.6	150.1	
9	156.1	155.7	171.6	146.1	147.8	144.1	145.5	138.6	143.6	143.3	136.6	141.1	
10	154.1	149.2	155.6	142.6	140.5	139.1	143.0	141.6	136.2	147.2	138.6	140.1	
11	154.1	152.1	157.6	142.6	146.6	140.6	141.6	138.1	135.2	142.9	140.1	142.6	
12	152.4	145.1	155.1	144.1	148.6	139.1	148.6	138.5	131.6	145.1	145.1	143.1	
13	151.1	149.3	150.6	144.1	142.5	141.6	145.6	136.6	137.6	142.6	143.1	138.1	
14	157.1	144.8	152.1	143.3	144.8	136.5	146.6	137.6	140.6	142.1	141.1	144.1	
15	151.1	144.8	152.1	139.6	141.4	136.1	144.6	138.7	140.6	141.1	141.1	150.1	
16	153.1	145.7	148.1	142.6	141.4	143.1	142.9	135.0	140.1	138.6	132.1	144.3	
17	148.1	147.8	147.6	145.1	137.9	141.6	140.9	140.6	136.6	136.6	145.6	138.9	
18	150.3	148.9	148.1	142.0	144.1	135.6	144.1	140.1	134.1	135.6	143.0	140.5	
19	150.1	146.1	145.6	139.2	149.6	135.1	140.6	137.1	140.1	137.1	140.1	139.9	
20	148.6	155.1	147.1	144.1	144.7	133.1	143.6	136.1	137.5	138.6	147.9	142.6	
21	153.6	152.1	145.6	145.1	141.9	137.1	145.6	141.0	137.5	138.6	142.6	147.1	
22	145.1	155.1	148.1	143.0	138.5	135.6	145.1	138.7	139.6	137.1	149.5	142.1	
23	151.6	149.1	146.6	140.2	142.4	143.6	141.1	135.1	136.5	135.1	147.1	135.6	
24	143.6	152.6	148.6	142.6	142.5	139.5	143.1	141.6	134.6	141.6	140.0	146.6	
25	171.1	150.1	146.6	146.6	143.1	139.6	140.1	140.6	136.6	138.1	149.4	126.1	
26	187.1	146.8	147.6	138.1	142.1	140.1	142.6	140.6	133.1	139.1	140.4	131.1	
27	168.6	146.1	144.6	142.6	142.0	139.7	142.1	136.4	136.1	144.1	146.6	137.1	
28	162.6	143.6	145.6	151.6	140.1	139.6	142.1	137.2	136.8	139.1	130.1	134.1	
29	161.1		147.1	143.5	145.1	140.6	143.5	139.6	138.1	142.1	143.6	143.1	
30	163.1		145.6	139.0	142.1	137.9	143.6	137.5	136.1	144.6	132.6	136.6	Annual
31	155.1		146.1		140.1		144.1	141.2		142.6		146.0	Summary
Average	155.4	150.1	149.1	143.4	143.6	139.9	143.9	139.2	138.3	139.6	141.8	141.0	143.8
Minimum	143.6	143.6	140.6	138.1	136.0	133.1	140.1	134.4	131.6	132.9	130.1	126.1	126
Maximum	187.1	157.6	178.5	151.6	152.1	149.5	148.9	146.1	146.7	147.2	150.6	150.1	187
Total	4815.9	4202.5	4479.2	4160.8	4307.7	4052.5	4316.9	4177.0	4002.6	4190.5	4114.9	4225.7	52470

Point Loma Wastewater Treatment Plant
2013 Total Suspended Solids



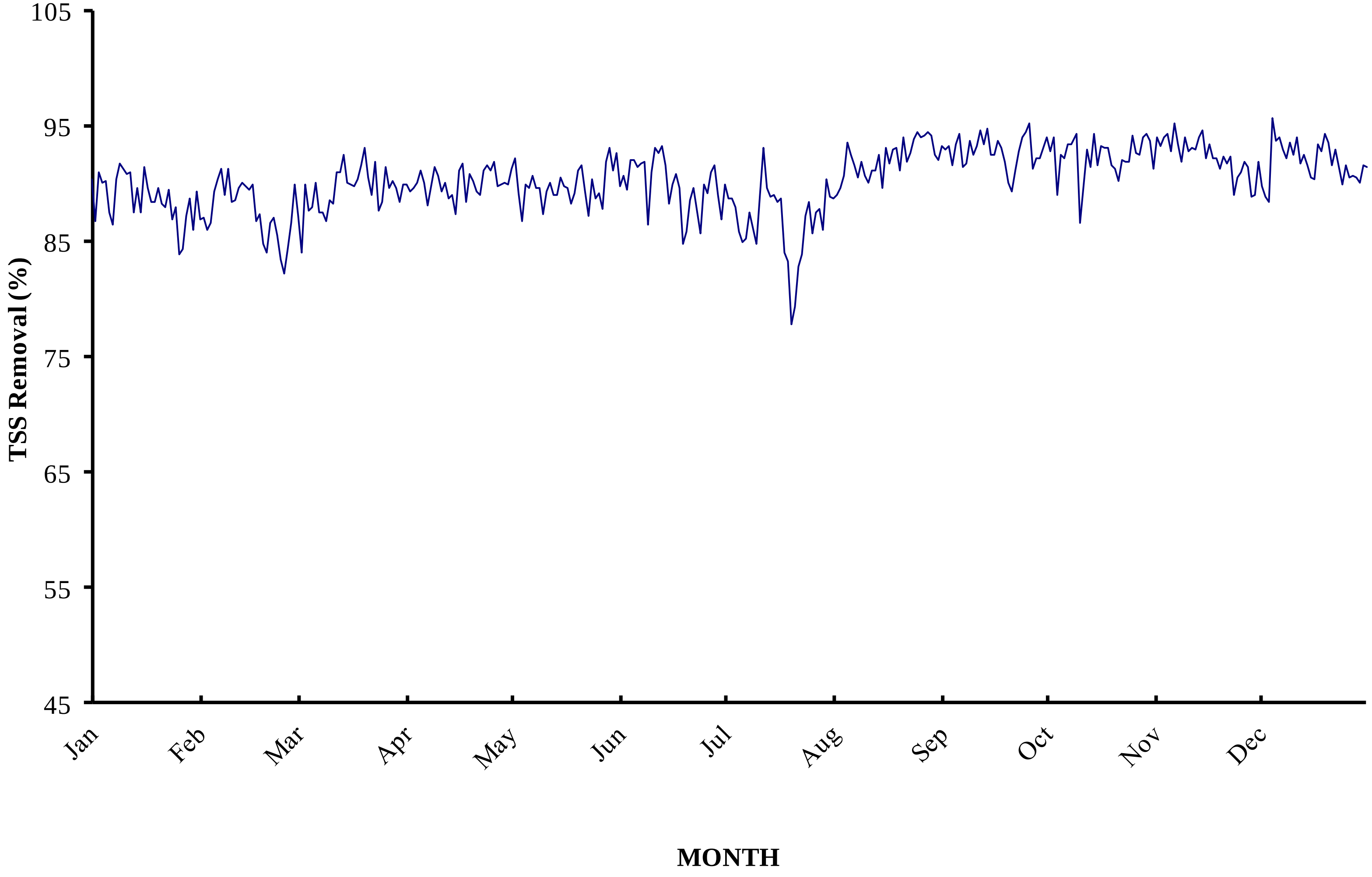
Point Loma Wastewater Treatment Plant

2013 Total Suspended Solids (mg/L)

Day	Jan Inf	Jan Eff	Feb Inf	Feb Eff	Mar Inf	Mar Eff	Apr Inf	Apr Eff	May Inf	May Eff	Jun Inf	Jun Eff	Jul Inf	Jul Eff	Aug Inf	Aug Eff	Sep Inf	Sep Eff	Oct Inf	Oct Eff	Nov Inf	Nov Eff	Dec Inf	Dec Eff
1	355	34	316	41	385	49	331	33	384	33	324	33	437	44	363	41	328	22	348	21	340	20	305	31
2	310	41	287	37	346	55	340	36	396	31	316	29	394	44	374	41	315	22	338	24	330	22	298	33
3	304	27	281	39	457	46	348	36	343	37	351	37	362	41	356	37	388	26	339	20	350	21	362	42
4	297	29	300	40	326	40	338	33	319	42	365	29	399	48	322	30	363	30	331	36	305	17	486	21
5	299	29	350	37	324	39	373	33	431	43	340	27	369	52	472	30	412	27	333	25	323	23	350	22
6	290	36	322	31	355	35	346	34	370	38	342	29	286	43	349	26	366	21	309	24	336	16	306	18
7	297	40	355	31	328	41	319	38	364	34	453	37	353	52	324	27	306	26	331	22	348	23	316	22
8	316	30	308	34	352	44	374	38	348	36	393	32	396	49	339	32	319	26	408	27	332	27	298	23
9	330	27	336	29	304	40	390	33	359	37	282	38	443	61	358	29	353	22	337	19	372	22	327	21
10	326	28	294	34	325	37	390	36	342	43	380	34	434	66	317	29	364	27	344	46	381	27	323	24
11	330	30	308	35	366	43	398	42	339	36	392	27	467	51	302	30	358	24	313	32	331	23	351	21
12	314	28	328	34	360	32	398	39	332	33	412	30	448	31	340	30	357	19	329	23	344	24	354	29
13	296	37	338	33	333	30	338	38	392	43	448	30	412	43	330	29	354	23	293	25	350	21	332	25
14	341	35	323	33	387	29	356	39	372	41	423	35	398	44	373	28	366	19	368	21	378	20	372	31
15	280	35	324	34	322	32	348	44	382	36	409	48	442	48	341	35	297	22	297	25	357	28	308	29
16	352	30	326	33	337	34	364	32	362	37	345	35	388	45	355	24	310	23	329	22	338	22	345	33
17	307	32	303	40	324	33	364	30	348	36	383	35	470	53	303	25	332	21	391	27	293	23	382	25
18	357	41	302	38	338	32	330	38	332	39	572	59	433	69	300	21	368	25	309	21	339	26	349	25
19	295	34	304	46	391	33	351	32	372	40	368	56	395	66	335	23	361	29	337	28	346	30	394	22
20	302	31	332	53	428	29	330	32	500	44	410	58	340	75	331	29	326	32	310	27	330	25	373	24
21	316	37	332	44	342	32	385	41	479	40	352	40	330	68	371	22	328	35	298	29	329	27	303	25
22	299	36	310	40	322	35	340	37	434	46	380	39	338	58	362	29	296	26	331	26	328	25	301	21
23	332	35	306	44	382	31	397	35	382	49	359	44	366	59	368	27	348	25	332	27	300	33	319	27
24	332	43	284	47	310	38	384	32	336	32	300	43	410	52	312	19	336	20	345	28	310	29	327	33
25	350	42	303	54	328	38	387	34	322	36	386	39	396	46	345	19	344	19	342	20	332	30	309	26
26	254	41	308	48	411	35	397	32	342	37	380	41	359	51	391	23	344	16	328	24	338	27	342	32
27	256	40	345	46	348	36	324	33	348	42	413	37	339	42	360	21	320	28	307	23	340	29	346	32
28	305	39	421	42	352	34	338	34	486	39	532	44	339	41	362	20	310	24	337	20	306	34	310	29
29	321	36			339	35	363	36	501	34	347	38	335	47	342	20	298	23	318	18	372	41	325	32
30	287	40			314	36	367	37	352	31	352	46	389	37	350	26	337	23	325	20	335	27	348	29
31	341	36			310	31			386	28			341	38	280	22			360	31			364	31
Avg	313	35	320	39	350	37	360	36	379	38	384	38	387	50	346	27	340	24	333	25	337	25	340	27
Min	254	27	281	29	304	29	319	30	319	28	282	27	286	31	280	19	296	16	293	18	293	16	298	18
Max	357	43	421	54	457	55	398	44	501	49	572	59	470	75	472	41	412	35	408	46	381	41	486	42

	Summary Inf	Summary Eff
Avg	349	33
Min	254	16
Max	572	75

Point Loma Wastewater Treatment Plant
2013 TSS Removal (%) at Point Loma

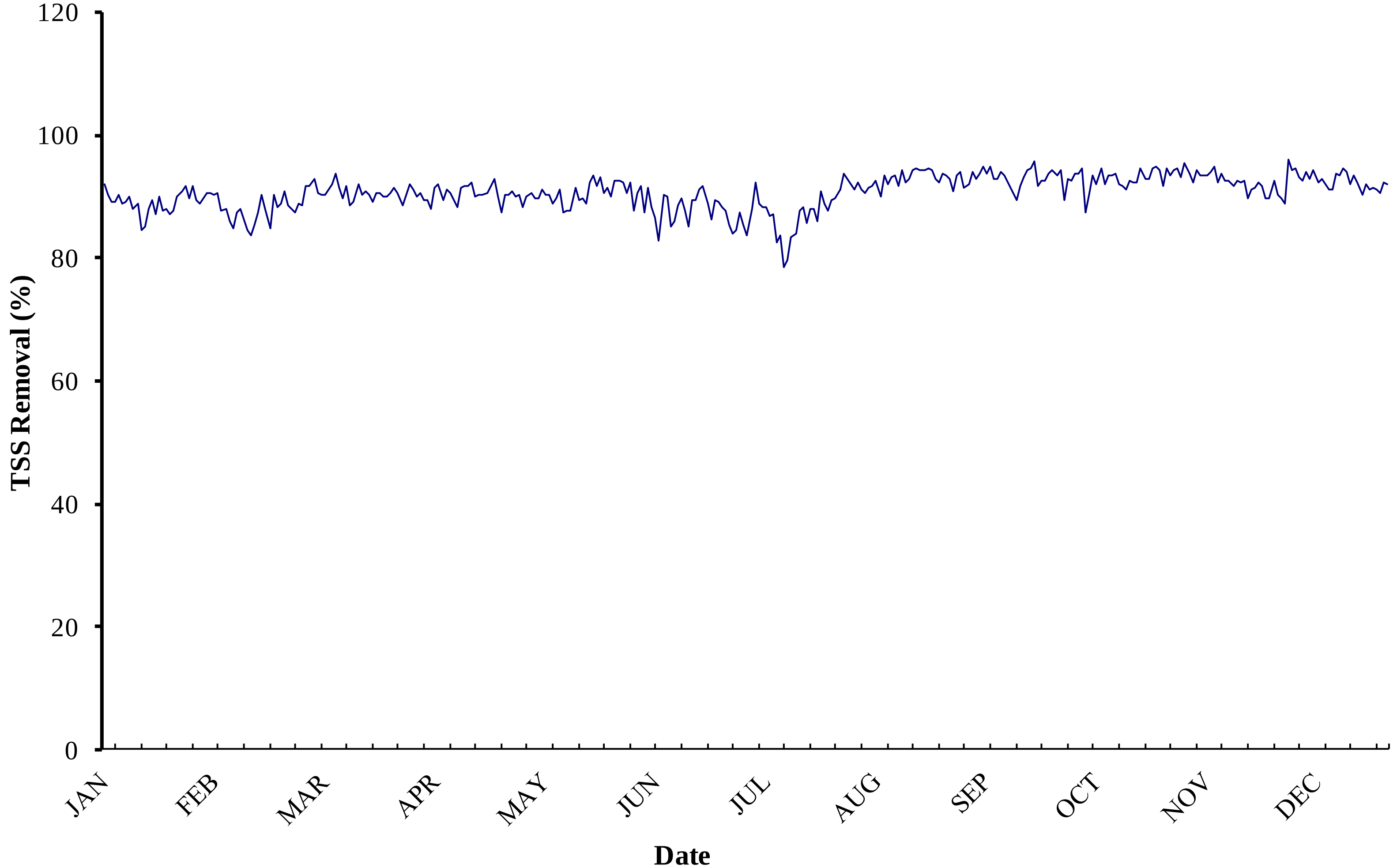


Point Loma Wastewater Treatment Plant

2013 Total Suspended Solids Removals (%) at Point Loma

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem	
1	90.4	87.0	87.3	90.0	91.4	89.8	89.9	88.7	93.3	94.0	94.1	89.8	
2	86.8	87.1	84.1	89.4	92.2	90.8	88.8	89.0	93.0	92.9	93.3	88.9	
3	91.1	86.1	89.9	89.7	89.2	89.5	88.7	89.6	93.3	94.1	94.0	88.4	
4	90.2	86.7	87.7	90.2	86.8	92.1	88.0	90.7	91.7	89.1	94.4	95.7	
5	90.3	89.4	88.0	91.2	90.0	92.1	85.9	93.6	93.4	92.5	92.9	93.7	
6	87.6	90.4	90.1	90.2	89.7	91.5	85.0	92.5	94.3	92.2	95.2	94.1	
7	86.5	91.3	87.5	88.1	90.7	91.8	85.3	91.7	91.5	93.4	93.4	93.0	
8	90.5	89.0	87.5	89.8	89.7	91.9	87.6	90.6	91.8	93.4	91.9	92.3	
9	91.8	91.4	86.8	91.5	89.7	86.5	86.2	91.9	93.8	94.4	94.1	93.6	
10	91.4	88.4	88.6	90.8	87.4	91.1	84.8	90.8	92.6	86.6	92.9	92.6	
11	90.9	88.6	88.3	89.4	89.4	93.1	89.1	90.1	93.3	89.8	93.1	94.0	
12	91.1	89.6	91.1	90.2	90.1	92.7	93.1	91.2	94.7	93.0	93.0	91.8	
13	87.5	90.2	91.0	88.8	89.0	93.3	89.6	91.2	93.5	91.5	94.0	92.5	
14	89.7	89.8	92.5	89.0	89.0	91.7	88.9	92.5	94.8	94.3	94.7	91.7	
15	87.5	89.5	90.1	87.4	90.6	88.3	89.1	89.7	92.6	91.6	92.2	90.6	
16	91.5	89.9	89.9	91.2	89.8	89.9	88.4	93.2	92.6	93.3	93.5	90.4	
17	89.6	86.8	89.8	91.8	89.7	90.9	88.7	91.8	93.7	93.1	92.2	93.5	
18	88.5	87.4	90.5	88.5	88.3	89.7	84.1	93.0	93.2	93.2	92.3	92.8	
19	88.5	84.9	91.6	90.9	89.2	84.8	83.3	93.1	92.0	91.7	91.3	94.4	
20	89.7	84.0	93.2	90.3	91.2	85.9	77.9	91.2	90.2	91.3	92.4	93.6	
21	88.3	86.7	90.6	89.4	91.6	88.6	79.4	94.1	89.3	90.3	91.8	91.7	
22	88.0	87.1	89.1	89.1	89.4	89.7	82.8	92.0	91.2	92.1	92.4	93.0	
23	89.5	85.6	91.9	91.2	87.2	87.7	83.9	92.7	92.8	91.9	89.0	91.5	
24	87.0	83.5	87.7	91.7	90.5	85.7	87.3	93.9	94.0	91.9	90.6	89.9	
25	88.0	82.2	88.4	91.2	88.8	89.9	88.4	94.5	94.5	94.2	91.0	91.6	
26	83.9	84.4	91.5	91.9	89.2	89.2	85.8	94.1	95.3	92.7	92.0	90.6	
27	84.4	86.7	89.7	89.8	87.9	91.0	87.6	94.2	91.3	92.5	91.5	90.8	
28	87.2	90.0	90.3	89.9	92.0	91.7	87.9	94.5	92.3	94.1	88.9	90.6	
29	88.8		89.7	90.1	93.2	89.0	86.0	94.2	92.3	94.3	89.0	90.2	
30	86.1		88.5	89.9	91.2	86.9	90.5	92.6	93.2	93.8	91.9	91.7	Annual
31	89.4		90.0		92.7		88.9	92.1		91.4		91.5	Summary
Avg	88.8	87.6	89.4	90.1	89.9	89.9	86.8	92.1	92.9	92.4	92.4	92.0	90.4
Min	83.9	82.2	84.1	87.4	86.8	84.8	77.9	88.7	89.3	86.6	88.9	88.4	77.9
Max	91.8	91.4	93.2	91.9	93.2	93.3	93.1	94.5	95.3	94.4	95.2	95.7	95.7

Point Loma Wastewater Treatment Plant
2013 TSS Removal (%) Systemwide

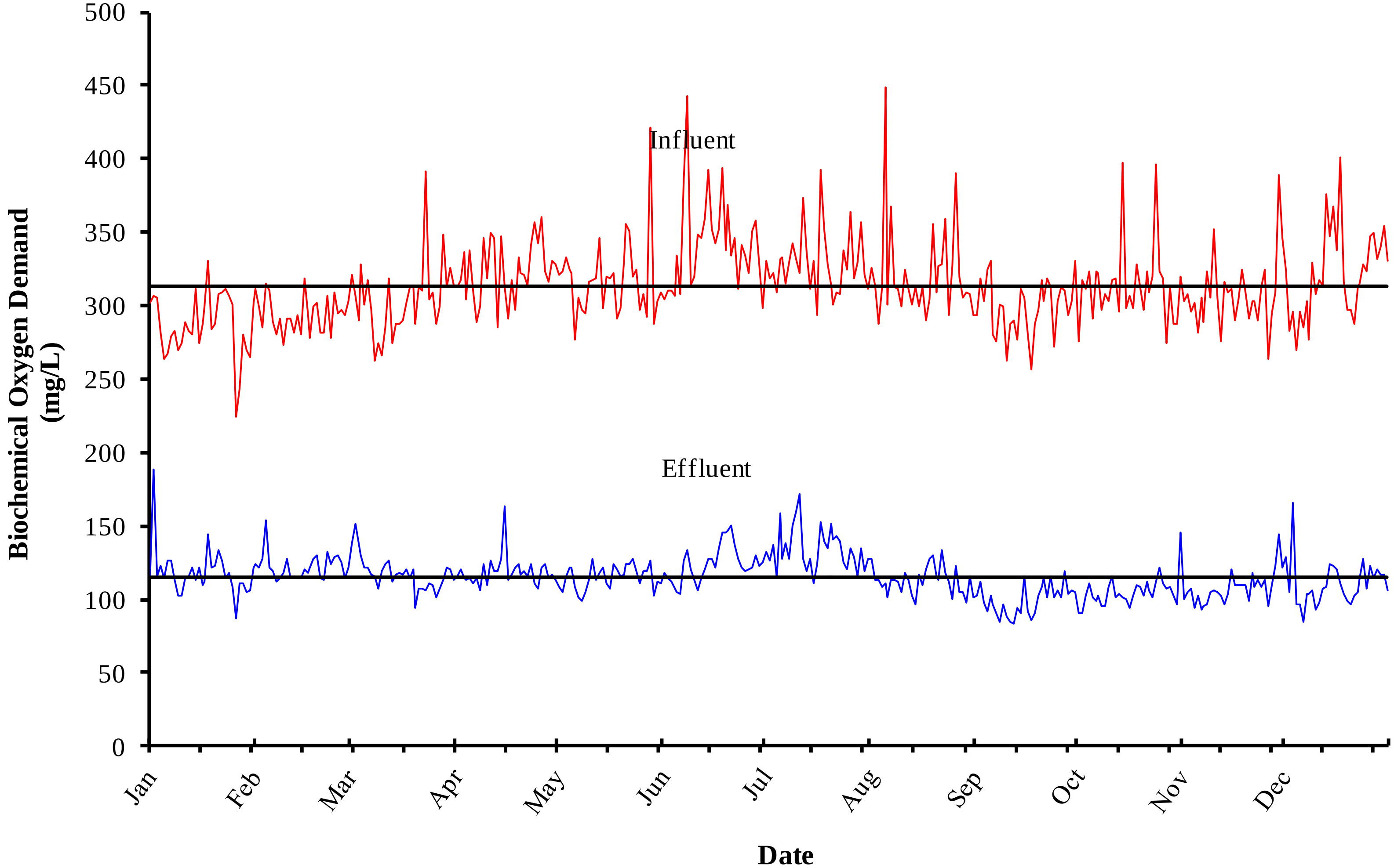


Point Loma Wastewater Treatment Plant

2013 Total Suspended Solids Removals (%) Systemwide

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem	Annual Summary
1	90.9	87.7	87.9	90.7	91.7	90.5	89.5	87.6	93.6	94.2	94.5	90.3	
2	87.7	88.0	84.8	90.1	92.8	91.4	89.0	89.4	93.5	93.3	93.5	89.6	
3	91.7	87.1	90.3	90.1	90.0	90.1	88.3	89.7	92.8	94.4	94.3	88.7	
4	91.0	87.6	88.4	90.6	87.5	92.5	87.6	91.1	90.8	89.4	94.7	95.9	
5	90.5	90.0	88.9	91.5	90.4	92.6	85.3	93.8	93.5	92.8	93.2	94.2	
6	88.4	90.9	90.8	90.6	90.3	92.4	84.0	92.9	94.1	92.6	95.4	94.5	
7	87.4	91.8	88.6	88.6	90.9	90.5	84.5	92.0	91.5	93.8	93.7	93.2	
8	90.9	89.8	88.1	90.2	90.1	92.2	87.4	91.1	92.0	93.8	92.3	92.5	
9	92.2	91.6	87.3	91.9	90.4	87.6	85.3	92.2	93.9	94.6	94.4	93.9	
10	91.6	89.3	88.9	91.1	88.2	90.7	83.6	91.0	92.9	87.3	93.3	93.0	
11	91.5	88.8	88.6	90.0	89.9	91.7	88.1	90.5	93.6	90.2	93.5	94.4	
12	91.7	89.6	91.7	90.6	90.5	87.5	92.4	91.5	94.8	93.3	93.3	92.2	
13	88.2	90.7	91.7	89.4	89.6	91.4	88.8	91.7	93.7	91.9	94.0	92.9	
14	90.3	90.6	92.9	89.4	89.7	88.4	88.2	92.7	94.8	94.6	94.9	92.0	
15	88.5	90.3	90.7	88.1	91.1	86.6	88.2	90.0	92.8	92.1	92.3	91.0	
16	92.0	90.6	90.4	91.5	90.4	82.9	86.9	93.5	92.8	93.5	93.7	91.0	
17	90.3	87.7	90.2	92.1	90.4	90.4	87.1	92.0	93.9	93.5	92.6	93.8	
18	89.1	88.1	91.2	89.4	88.7	89.9	82.6	93.2	93.5	93.6	92.7	93.3	
19	89.2	85.9	92.0	91.1	89.8	85.2	83.6	93.4	92.2	91.9	91.7	94.7	
20	90.2	84.9	93.7	90.6	91.0	86.1	78.6	91.6	90.5	91.8	92.7	94.0	
21	88.8	87.4	91.3	89.3	87.4	88.5	79.6	94.3	89.4	91.1	92.2	92.1	
22	89.0	88.1	89.8	88.4	87.7	89.6	83.3	92.4	91.6	92.6	92.6	93.4	
23	90.0	86.4	91.8	91.4	87.8	87.7	84.1	93.0	93.2	92.3	89.7	92.3	
24	88.0	84.5	88.5	91.8	91.3	85.0	87.7	94.3	94.4	92.4	91.0	90.4	
25	88.7	83.7	89.1	91.7	89.5	89.5	88.4	94.7	94.7	94.5	91.4	92.1	
26	84.5	85.5	92.0	92.4	89.8	89.3	85.7	94.4	95.6	93.0	92.4	91.2	
27	85.0	87.4	90.3	89.9	88.8	91.0	88.0	94.4	91.8	93.0	91.8	91.3	
28	87.9	90.4	90.8	90.2	92.2	91.7	87.9	94.6	92.6	94.5	89.8	91.1	
29	89.4		90.2	90.4	93.5	88.7	85.9	94.4	92.6	94.8	89.7	90.5	
30	87.0		89.0	90.6	91.6	86.4	90.8	92.8	93.6	94.2	92.5	92.2	
31	90.0		90.6		93.1		88.8	92.4		91.8		92.1	
Avg	89.4	88.4	90.0	90.5	90.2	89.3	86.4	92.3	93.0	92.8	92.8	92.4	90.6
Min	84.5	83.7	84.8	88.1	87.4	82.9	78.6	87.6	89.4	87.3	89.7	88.7	78.6
Max	92.2	91.8	93.7	92.4	93.5	92.6	92.4	94.7	95.6	94.8	95.4	95.9	95.9

Point Loma Wastewater Treatment Plant
2013 Biochemical Oxygen Demand



Point Loma Wastewater Treatment Plant

2013 Biochemical Oxygen Demand (mg/L)

	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Day	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	302	116	311	124	321	138	312	116	321	109	304	118	331	132	326	128	293	103	276	91	303	100	324	129
2	307	189	299	122	307	151	317	120	323	105	310	115	319	126	314	113	319	112	317	90	308	105	283	105
3			285	128	290	137	336	115	333	116	310	112	322	137	287	113	303	98	311	102	296	107	296	166
4	282	123	315	154	328	130	304	113	325	122	307	107	309	114	312	109	324	92	323	111	302	94	270	96
5	264	115	310	122	301	122	338	115	322	121	334	105	332	159	449	111	331	103	291	101	282	102	296	97
6	267	126	289	119	317	122	310	111	277	108	308	104	333	127	301	101	280	96	323	99	305	93	285	85
7	279	126	280	112	297	117	289	114	305	101	385	126	315	138	368	113	276	90	322	102	289	95	303	104
8	283	113	291	114	262	116	300	106	297	99	443	133	329	127	313	113	301	84	297	95	323	97	277	104
9	270	102	273	118	274	107	346	124	295	105	314	120	343	150	311	112	299	97	308	95	306	105	329	106
10	274	102	291	127	266	119	319	110	316	113	320	113	332	160	299	105	263	88	303	108	352	106	308	93
11	289	115	291	114	285	124	349	126	317	128	348	106	322	172	324	118	288	85	317	116	306	105	317	98
12	283	116	281	116	318	126	346	119	319	113	346	114	373	128	311	113	290	83	318	101	275	103	314	107
13	280	122	294	115	274	112	285	119	346	118	359	120	336	119	301	102	277	94	296	104	316	97	376	108
14	311	113	280	115	287	117	347	127	298	121	392	127	311	127	312	97	311	90	397	101	309	104	347	124
15	274	122	319	120	287	118	313	163	320	111	352	127	330	111	299	117			298	100	311	120	368	123
16	288	110	293	118	290	117	291	113	318	107	342	122	294	124	312	110	280	92	307	94	290	110	338	120
17	300	112	278	121	302	120	317	117	322	124	352	135	392	153	290	120	257	86	298	102	304	110	401	111
18	330	144	300	127	313	114	297	122	291	120	394	145	352	140	304	128	287	90	328	110	324	110	316	104
19	284	121	302	130	312	120	333	124	298	116	338	145	328	135	355	130	297	102	313	108	309	110	297	99
20	288	123	281	114	287	94	322	117	330	117	369	147	314	152	309	116	317	109	297	103	291	99	297	97
21	308	133	282	113	313	107	321	119	355	124	334	150	301	141	327	113	303	115	323	112	303	118	288	103
22	309	126	307	132	310	107	314	116	351	124	346	137	309	143	328	133	318	101	309	106	303	109	312	105
23	311	114	278	124	391	106	341	124	320	128	311	128	308	139	359	118	312	116	320	101	290	113	315	114
24	307	118	309	129	304	111	357	111	324	119	341	122	338	125	293	112	272	101	396	112	313	109	328	127
25	301	109	295	130	309	110	342	107	297	111	334	119	325	120	327	100	303	106	323	122	325	113	323	107
26	224	87	297	125	288	101	360	122	308	119	322	120	364	135	390	123	312	101	319	111	264	95	347	123
27	243	111	293	114	299	107	323	124	292	119	351	122	318	129	320	105	310	119	274	107	295	110	349	114
28	280	111	303	121	348	113	316	115	421	126	358	130	329	116	306	105	294	104	313	109	309	123	332	120
29	270	105			313	122	330	117	287	103	328	123	357	135	309	98	303	106	287	102	389	144	340	117
30	265	106			326	120	328	113	303	112	298	125	321	119	308	116	331	105	288	96	346	121	354	117
31	302	121			314	113			309	111			311	128	294	101			320	146			331	106
Avg	286	118	294	122	304	117	323	119	317	115	342	124	329	134	321	113	298	99	313	105	308	108	321	111
Min	224	87	273	112	262	94	285	106	277	99	298	104	294	111	287	97	257	83	274	90	264	93	270	85
Max	330	189	319	154	391	151	360	163	421	128	443	150	392	172	449	133	331	119	397	146	389	144	401	166

Summary

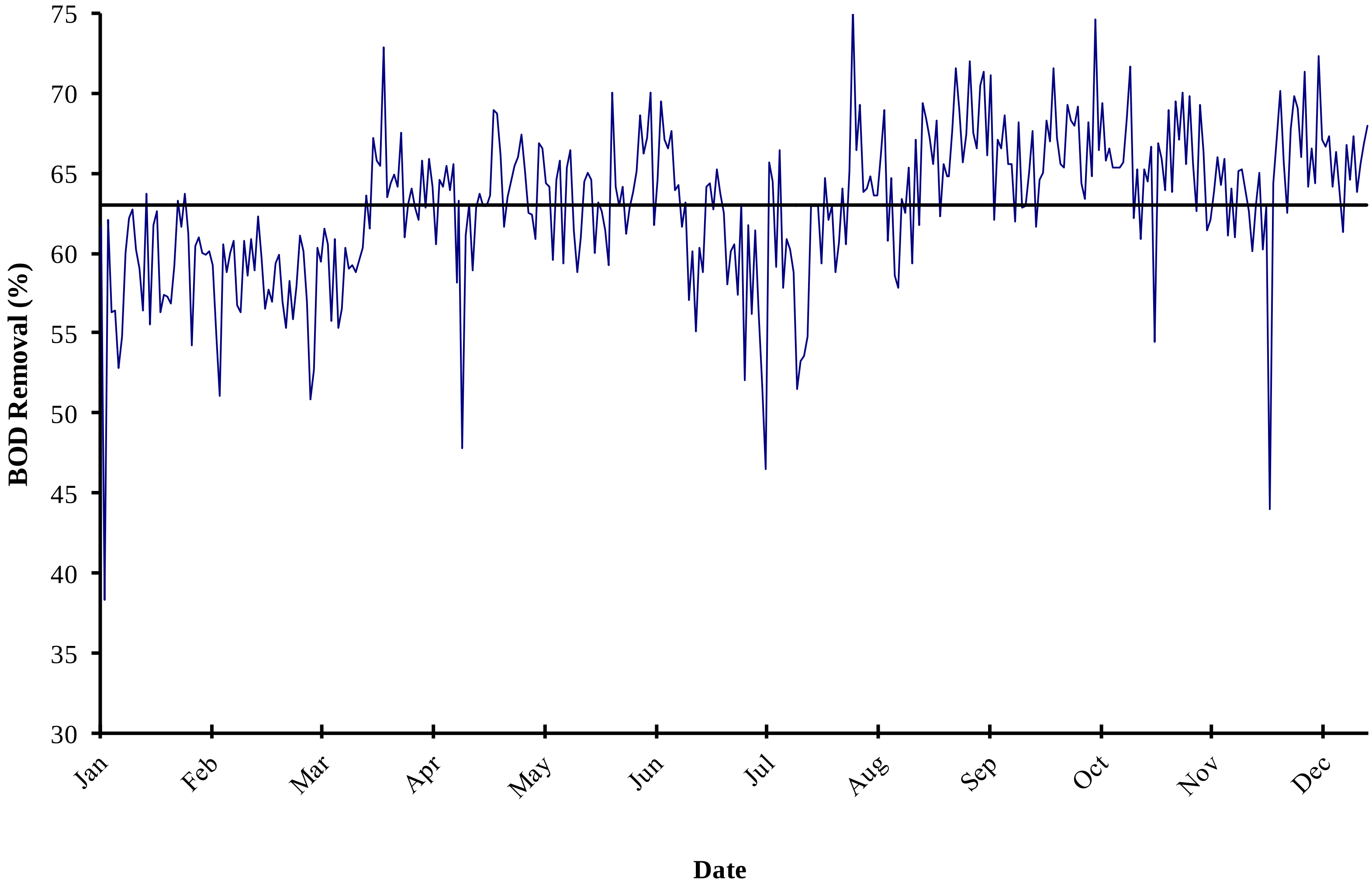
	Inf	Eff
Avg	313	115
Min	224	83
Max	449	189

Point Loma Wastewater Treatment Plant

2013 Biochemical Oxygen Demand Removals (%) at Point Loma

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem	Annual Summary
1	61.6	60.1	56.9	62.8	66.0	61.2	60.1	60.7	64.8	67.0	66.9	60.2	
2	38.3	59.2	50.8	62.1	67.4	62.8	60.5	64.0	64.8	71.6	65.9	62.9	
3	62.1	55.0	52.7	65.8	65.1	63.8	57.4	60.6	67.7	67.2	63.9	44.0	
4	56.3	51.1	60.3	62.8	62.5	65.1	63.1	65.1	71.6	65.6	68.9	64.4	
5	56.4	60.6	59.5	65.9	62.4	68.6	52.0	75.3	68.9	65.3	63.8	67.2	
6	52.8	58.8	61.5	64.2	60.9	66.2	61.8	66.4	65.7	69.3	69.5	70.2	
7	54.8	60.0	60.5	60.6	66.9	67.2	56.2	69.3	67.4	68.3	67.1	65.7	
8	60.0	60.8	55.7	64.6	66.6	70.0	61.4	63.8	72.0	68.0	70.0	62.5	
9	62.2	56.7	60.9	64.1	64.4	61.8	56.2	64.0	67.5	69.2	65.6	67.8	
10	62.7	56.3	55.3	65.5	64.2	64.6	51.7	64.8	66.5	64.4	69.8	69.8	
11	60.2	60.8	56.5	63.9	59.6	69.5	46.5	63.6	70.5	63.4	65.6	69.1	
12	59.0	58.6	60.3	65.6	64.6	67.1	65.7	63.6	71.3	68.2	62.6	66.0	
13	56.4	60.9	59.0	58.2	65.8	66.5	64.5	66.1	66.1	64.8	69.3	71.3	
14	63.7	58.9	59.2	63.3	59.3	67.6	59.1	68.9	71.1	74.6	66.3	64.2	
15	55.5	62.3	58.8	47.8	65.3	63.9	66.4	60.8	62.1	66.4	61.4	66.6	
16	61.8	59.7	59.6	61.1	66.4	64.3	57.8	64.7	67.1	69.4	62.1	64.4	
17	62.6	56.5	60.3	63.1	61.4	61.6	60.9	58.6	66.5	65.8	63.8	72.3	
18	56.3	57.7	63.6	58.9	58.8	63.2	60.2	57.8	68.6	66.5	66.0	67.1	
19	57.4	57.0	61.5	62.8	61.0	57.1	58.8	63.4	65.6	65.4	64.3	66.7	
20	57.3	59.4	67.2	63.7	64.5	60.1	51.5	62.5	65.6	65.3	65.9	67.3	
21	56.8	59.9	65.8	62.9	65.0	55.1	53.2	65.4	62.0	65.3	61.1	64.2	
22	59.2	57.0	65.5	63.0	64.6	60.3	53.6	59.4	68.2	65.7	64.0	66.3	
23	63.3	55.3	72.9	63.6	60.0	58.8	54.8	67.1	62.8	68.4	61.0	63.8	
24	61.6	58.3	63.5	68.9	63.2	64.2	63.0	61.7	62.9	71.7	65.1	61.3	
25	63.7	55.9	64.4	68.7	62.6	64.4	63.0	69.4	65.0	62.2	65.2	66.8	
26	61.2	57.9	64.9	66.1	61.4	62.7	62.9	68.4	67.6	65.2	63.9	64.6	
27	54.2	61.1	64.2	61.6	59.2	65.2	59.4	67.2	61.6	60.9	62.6	67.3	
28	60.4	60.1	67.5	63.5	70.0	63.7	64.7	65.6	64.6	65.2	60.1	63.8	
29	61.0		61.0	64.5	64.1	62.5	62.1	68.3	65.0	64.5	63.0	65.6	
30	60.0		63.1	65.5	63.0	58.0	62.9	62.3	68.3	66.7	65.0	66.9	
31	59.9		64.0		64.1		58.8	65.6		54.4		68.0	
Avg	58.7	58.4	61.2	63.2	63.6	63.6	59.0	64.7	66.6	66.3	65.0	65.4	63.0
Min	38.3	51.1	50.8	47.8	58.8	55.1	46.5	57.8	61.6	54.4	60.1	44.0	38.3
Max	63.7	62.3	72.9	68.9	70.0	70.0	66.4	75.3	72.0	74.6	70.0	72.3	75.3

Point Loma Wastwater Treatment
2013 BOD Removal (%) at Point Loma

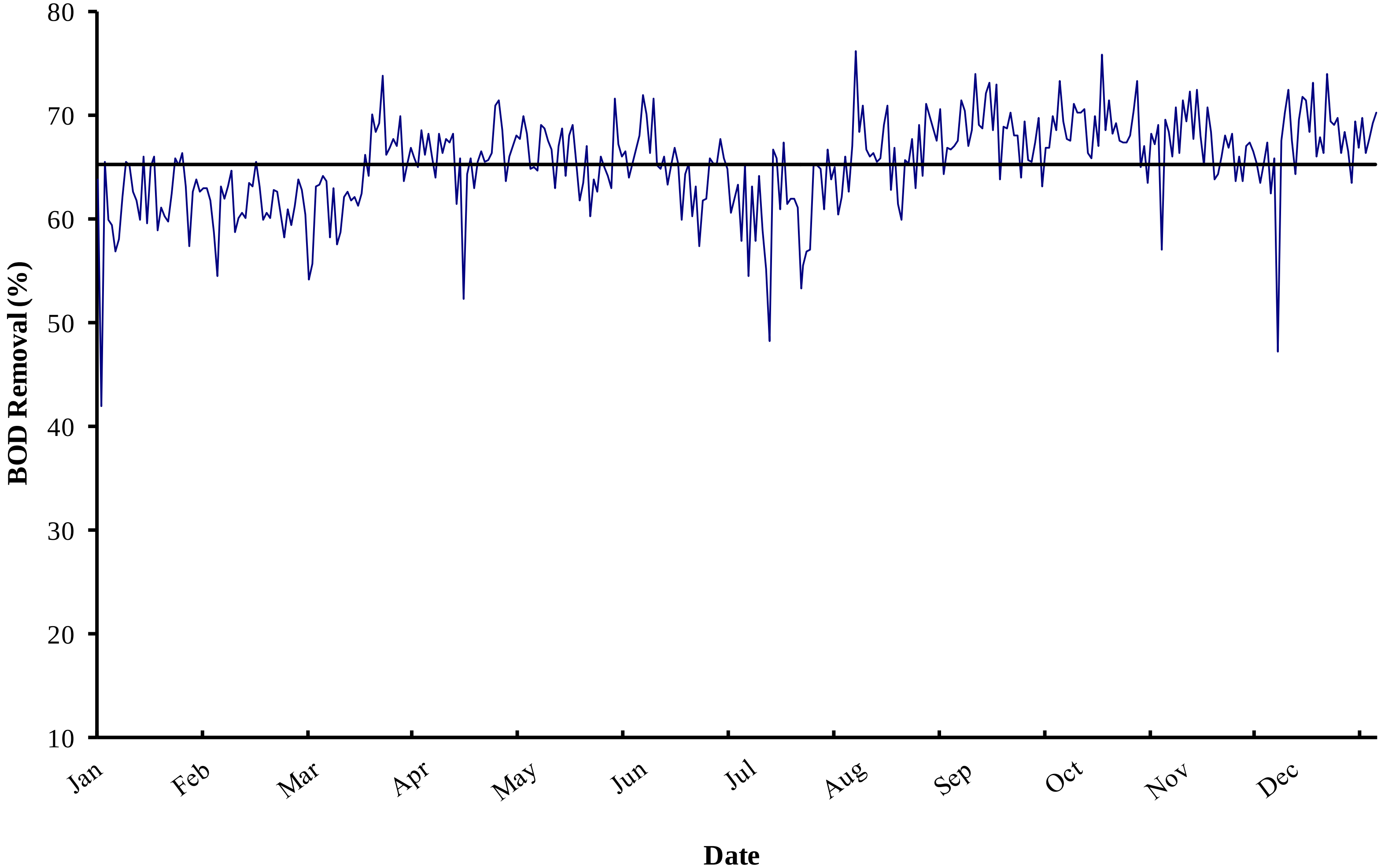


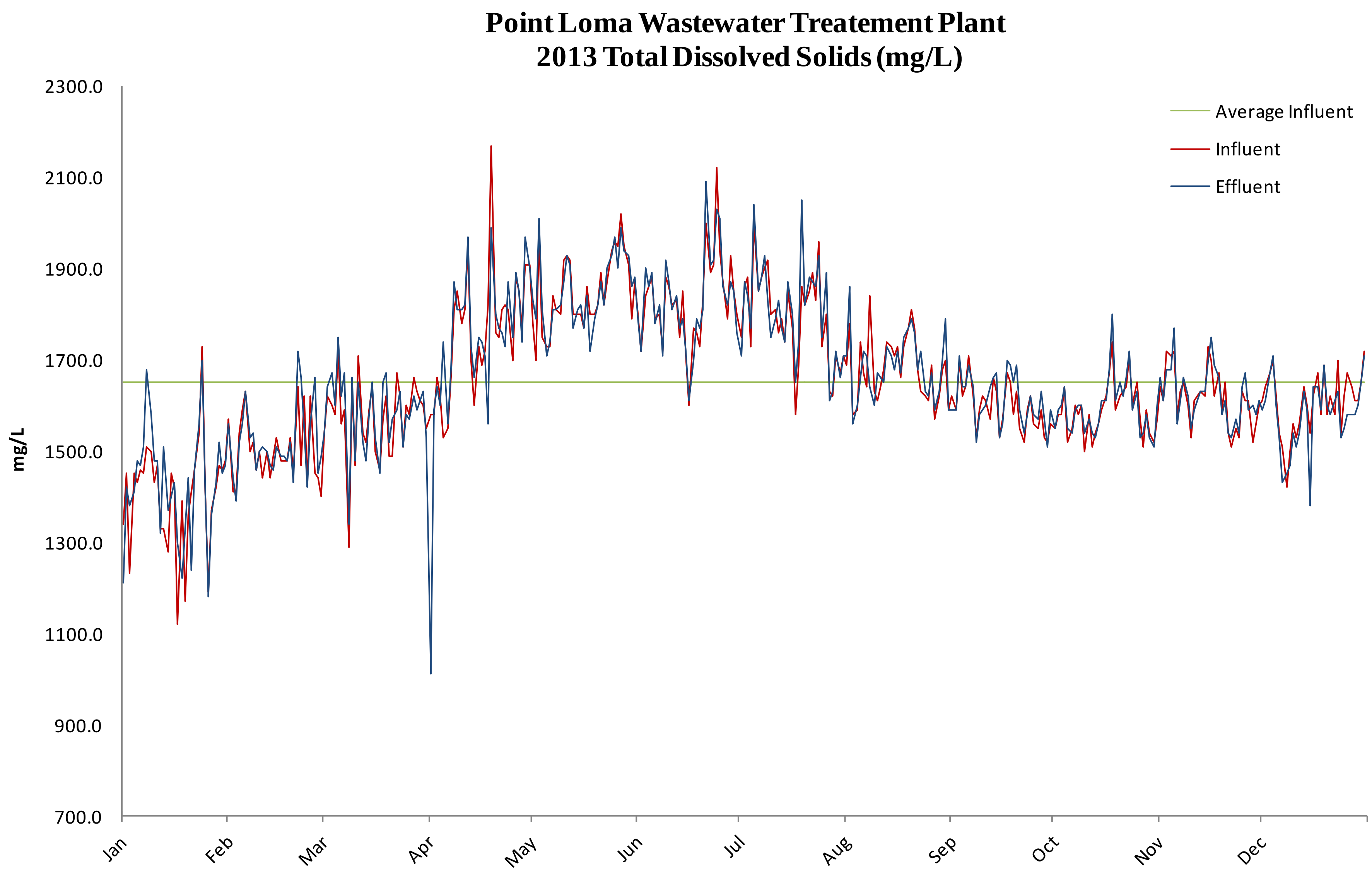
Point Loma Wastewater Treatment Plant

2013 Biochemical Oxygen Demand Removals (%) Systemwide

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem	
1	63.9	63.0	60.5	65.9	67.8	64.0	62.0	62.1	66.7	68.6	69.6	62.4	
2	41.9	61.8	54.1	65.0	70.0	65.4	63.3	66.0	67.0	73.4	68.4	65.9	
3	65.5	58.8	55.7	68.5	68.2	66.7	57.8	62.6	67.5	69.5	66.0	47.2	
4	59.9	54.5	63.2	66.2	64.8	68.0	65.2	67.0	71.4	67.8	70.8	67.5	
5	59.4	63.2	63.3	68.3	65.0	71.9	54.5	76.2	70.5	67.5	66.4	70.2	
6	56.8	61.9	64.1	66.0	64.6	70.1	63.1	68.4	67.0	71.1	71.5	72.5	
7	58.1	63.1	63.7	64.0	69.0	66.3	57.8	70.9	68.6	70.2	69.5	67.6	
8	62.2	64.6	58.3	68.3	68.7	71.7	64.2	66.7	74.0	70.3	72.3	64.4	
9	65.5	58.8	63.0	66.4	67.5	65.2	58.9	66.0	69.0	70.6	67.7	69.6	
10	65.1	60.1	57.6	67.8	66.7	64.8	55.2	66.3	68.7	66.3	72.4	71.8	
11	62.6	60.6	58.8	67.3	62.9	66.1	48.2	65.6	72.1	65.8	68.0	71.4	
12	61.7	60.1	62.1	68.2	67.0	63.3	66.7	65.8	73.1	70.0	65.2	68.4	
13	60.0	63.5	62.6	61.5	68.7	65.2	65.8	69.0	68.5	67.1	70.7	73.1	
14	66.0	63.2	61.8	65.8	64.1	66.9	61.0	71.0	73.0	75.9	68.4	66.1	
15	59.6	65.6	62.1	52.3	68.0	65.4	67.3	62.8	63.9	68.5	63.8	67.9	
16	65.0	63.2	61.3	64.3	69.1	59.9	61.5	66.9	68.9	71.4	64.3	66.4	
17	66.1	60.0	62.5	65.9	65.6	64.3	62.0	61.4	68.8	68.2	66.1	74.0	
18	58.9	60.6	66.2	62.9	61.8	65.4	61.9	59.9	70.2	69.3	68.1	69.4	
19	61.1	60.1	64.2	65.6	63.5	60.3	61.1	65.7	68.0	67.5	66.8	69.0	
20	60.2	62.8	70.1	66.6	67.0	63.1	53.3	65.4	68.0	67.3	68.2	69.8	
21	59.7	62.6	68.4	65.6	60.3	57.3	55.5	67.7	64.0	67.4	63.7	66.4	
22	62.5	60.5	69.3	65.7	63.8	61.8	56.9	63.0	69.5	68.0	66.0	68.4	
23	65.8	58.2	73.8	66.3	62.6	61.9	57.1	69.0	65.7	70.5	63.6	66.6	
24	65.2	60.9	66.2	71.0	66.0	65.8	65.1	64.1	65.6	73.4	67.0	63.5	
25	66.3	59.4	66.9	71.4	65.0	65.3	65.1	71.1	67.3	65.0	67.3	69.4	
26	63.1	61.3	67.8	68.5	64.2	65.4	64.8	69.9	69.7	67.1	66.5	66.9	
27	57.4	63.8	67.0	63.7	63.0	67.8	60.9	68.7	63.2	63.5	65.3	69.8	
28	62.7	62.8	69.9	66.0	71.6	65.9	66.7	67.6	66.9	68.3	63.5	66.4	
29	63.8		63.6	67.1	67.2	64.9	63.9	70.6	66.9	67.2	65.4	67.7	
30	62.6		65.3	68.1	66.0	60.6	65.0	64.3	69.9	69.0	67.4	69.2	Annual
31	62.9		66.8		66.6		60.5	66.8		57.1		70.3	Summary
Avg	61.7	61.4	63.9	66.0	66.0	65.0	61.0	66.7	68.5	68.5	67.3	67.7	65.3
Min	41.9	54.5	54.1	52.3	60.3	57.3	48.2	59.9	63.2	57.1	63.5	47.2	41.9
Max	66.3	65.6	73.8	71.4	71.6	71.9	67.3	76.2	74.0	75.9	72.4	74.0	76.2

Point Loma Wastewater Treatment Plant
2013 BOD Removal (%) Systemwide





Point Loma Wastewater Treatement Plant
2013 Total Dissolved Solids (mg/L)
2300.0
2100.0
1900.0
1700.0
1500.0
1300.0
1100.0
900.0
700.0
mg/L
Average Influent
Influent
Effluent
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Point Loma Wastewater Treatment Plant

2013 Total Dissolved Solids (mg/L)

	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Summary	
Day	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Influent	Effluent
1	1340	1210	1570	1560	1540	1540	1580	1010	1780	1830	1800	1790	1750	1710	1690	1710	1620	1590	1550	1550	1640	1660	1610	1590		
2	1450	1420	1410	1440	1620	1640	1580	1590	1700	1790	1720	1720	1860	1870	1780	1860	1590	1590	1580	1590	1610	1610	1640	1610		
3	1230	1380	1410	1390	1600	1670	1660	1640	1980	2010	1840	1900	1880	1840	1580	1560	1700	1710	1580	1600	1720	1680	1670	1670		
4	1450	1410	1540	1520	1580	1600	1620	1600	1750	1810	1860	1860	1730	1770	1590	1600	1620	1640	1640	1640	1710	1680	1700	1710		
5	1430	1480	1590	1560	1720	1750	1530	1740	1730	1710	1880	1890	2000	2040	1740	1660	1640	1640	1520	1550	1720	1770	1620	1600		
6	1460	1470	1630	1630	1560	1620	1550	1560	1730	1740	1790	1780	1850	1850	1670	1720	1710	1690	1550	1540	1580	1560	1540	1530		
7	1450	1510	1500	1530	1590	1670	1660	1680	1840	1810	1800	1820	1880	1880	1640	1710	1620	1640	1600	1590	1630	1610	1510	1430		
8	1510	1680	1520	1540	1290	1340	1810	1870	1810	1810	1720	1710	1900	1930	1840	1640	1530	1520	1580	1600	1650	1660	1420	1450		
9	1500	1580	1460	1460	1640	1660	1850	1810	1800	1820	1880	1920	1920	1830	1630	1600	1590	1580	1600	1600	1600	1620	1500	1470		
10	1430	1480	1500	1500	1470	1480	1780	1810	1920	1870	1860	1870	1800	1750	1610	1670	1620	1590	1500	1540	1530	1550	1560	1540		
11	1470	1480	1440	1510	1710	1650	1810	1820	1930	1930	1820	1810	1810	1790	1640	1660	1610	1600	1580	1570	1610	1590	1530	1510		
12	1330	1320	1500	1500	1540	1520	1950	1970	1920	1910	1830	1840	1760	1830	1680	1650	1570	1640	1510	1540	1620	1610	1560	1540		
13	1330	1510	1440	1470	1520	1480	1700	1730	1800	1770	1750	1770	1790	1770	1740	1730	1660	1660	1540	1530	1630	1630	1640	1630		
14	1280	1370	1490	1460	1590	1580	1600	1660	1800	1810	1850	1790	1740	1740	1730	1710	1630	1670	1560	1560	1620	1630	1600	1590		
15	1450	1400	1530	1510	1640	1650	1730	1750	1800	1820	1710	1720	1850	1870	1710	1680	1530	1530	1590	1610	1730	1700	1540	1380		
16	1420	1430	1480	1490	1500	1530	1690	1740	1770	1770	1600	1610	1770	1800	1730	1720	1570	1560	1620	1610	1700	1750	1620	1640		
17	1120	1300	1480	1490	1460	1450	1720	1710	1860	1840	1770	1700	1580	1650	1660	1670	1670	1700	1670	1680	1620	1690	1670	1640		
18	1390	1220	1480	1480	1570	1650	1820	1560	1800	1720	1760	1790	1690	1740	1730	1750	1650	1690	1740	1800	1670	1660	1580	1590		
19	1170	1330	1530	1520	1620	1670	2170	1990	1800	1790	1730	1770	1860	2050	1770	1770	1580	1650	1590	1610	1590	1580	1690	1690		
20	1360	1440	1450	1430	1490	1520	1760	1800	1820	1820	1830	1810	1820	1820	1810	1790	1630	1690	1620	1650	1650	1610	1580	1600		
21	1410	1240	1640	1720	1490	1570	1750	1770	1890	1870	2000	2090	1850	1880	1770	1760	1550	1590	1630	1620	1540	1540	1620	1580		
22	1460	1460	1470	1660	1670	1590	1810	1760	1820	1820	1890	1910	1890	1870	1680	1680	1520	1540	1640	1660	1510	1530	1580	1610		
23	1540	1560	1620	1550	1620	1630	1820	1730	1870	1900	1910	1920	1830	1860	1630	1720	1590	1580	1710	1720	1550	1570	1700	1630		
24	1730	1700	1430	1420	1510	1510	1810	1870	1940	1930	2120	2030	1960	1930	1620	1630	1620	1620	1600	1590	1530	1540	1540	1530		
25	1410	1410	1620	1560	1600	1580	1700	1750	1960	1970	1940	2010	1730	1750	1610	1620	1560	1580	1650	1630	1630	1640	1620	1550		
26	1190	1180	1450	1660	1580	1570	1880	1890	1950	1900	1870	1860	1800	1890	1690	1670	1550	1570	1570	1530	1610	1670	1670	1580		
27	1370	1360	1440	1450	1660	1620	1850	1850	2020	1990	1790	1820	1630	1610	1570	1590	1590	1630	1510	1540	1610	1590	1640	1580		
28	1420	1430	1400	1490	1630	1590	1770	1740	1950	1940	1930	1870	1620	1630	1620	1630	1530	1570	1590	1580	1520	1600	1610	1580		
29	1470	1520			1610	1610	1910	1970	1910	1930	1850	1850	1710	1720	1680	1700	1520	1510	1540	1530	1560	1580	1610	1600		
30	1460	1450			1600	1630	1910	1900	1790	1860	1800	1760	1670	1660	1700	1790	1560	1590	1520	1510	1600	1610	1650	1650		
31	1480	1470			1550	1530			1870	1880			1710	1710	1590	1590			1570	1600			1720	1710		
Avg	1404	1426	1501	1518	1573	1584	1759	1742	1849	1851	1830	1833	1795	1808	1682	1685	1598	1612	1589	1596	1616	1624	1605	1581	1650	1655
Min	1120	1180	1400	1390	1290	1340	1530	1010	1700	1710	1600	1610	1580	1610	1570	1560	1520	1510	1500	1510	1510	1530	1420	1380	1120	1010
Max	1730	1700	1640	1720	1720	1750	2170	1990	2020	2010	2120	2090	2000	2050	1840	1860	1710	1710	1740	1800	1730	1770	1720	1710	2170	2090

Point Loma Wastewater Treatment Plant

2013 Instantaneous Maximum Chlorine (mg/L) - Laboratory Grab

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	0.03	0.33	0.00	0.07	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	
2	0.38	0.96	0.84	0.00	0.05	0.05	0.00	0.00	0.07	0.00	0.00	0.00	
3	0.00	1.80	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	
4	0.00	1.20	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.18	0.00	
5	1.89	7.13	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.98	0.00	
6	0.60	1.37	0.00	0.05	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	
7	0.23	0.56	0.10	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	1.24	1.67	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	
9	0.20	0.23	0.21	0.00	0.00	0.11	0.00	0.00	0.00	0.65	0.08	0.00	
10	0.32	1.37	1.17	0.03	0.66	0.00	0.00	0.00	0.00	0.29	0.00	0.00	
11	0.44	0.56	1.31	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.15	0.00	
12	0.00	0.66	0.64	0.08	0.24	0.00	0.79	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.64	0.39	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	
14	0.09	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	
15	0.17	0.00	0.46	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	
16	0.00	0.00	0.05	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	
17	0.09	0.22	0.13	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.12	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.06	0.70	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.30	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	0.37	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.20	0.81	0.19	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.16	0.00	
23	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	
24	0.00	0.41	0.65	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.11	0.00	
25	0.05	0.18	0.00	0.36	0.00	0.00	0.00	0.24	0.00	0.74	0.00	0.00	
26	0.00	0.10	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.41	0.00	
27	0.00	0.53	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	
28	0.69	0.08	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29	5.55		0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.64	0.00	0.00	
30	0.28		0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	Annual
31	0.26		0.21		0.08		0.00	0.00		0.71		0.00	Summary
Average	0.45	0.82	0.31	0.03	0.10	0.04	0.03	0.01	0.01	0.13	0.20	0.02	0.18
Maximum	5.55	7.13	1.31	0.36	0.66	0.67	0.79	0.24	0.12	0.74	2.98	0.49	7.13

Point Loma Wastewater Treatment Plant
2013 Instantaneous Maximum Chlorine (mg/L) - online meter

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Summary
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
31	0.00		0.00		0.00		0.00	0.00		0.00		0.00	
Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Continuous monitoring was initiated on February 1, 2011. To ensure daily monitoring of chlorine residual, during periods when the continuous monitoring equipment was off-line or down for maintenance, monitoring of chlorine was accomplished by the on-site laboratory following the schedule previously stipulated in Addendum No. 2 of Order R9-2002-0025.

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F. Toxicity Bioassays

Toxicity Testing: Point Loma Wastewater Treatment Plant 2013

INTRODUCTION

The City of San Diego's Toxicology Laboratory (CSDTL) conducted aquatic toxicity tests (bioassays) as required by NPDES Permit No. CA0107409, Order No. R9-2009-0001 for the Point Loma Wastewater Treatment Plant (PLWTP). The testing requirements are designed to determine the acute and chronic toxicity of effluent samples collected from the PLWTP. This chapter presents summaries and discussion of all toxicity tests conducted in calendar year 2013.

Toxicity testing of wastewater effluent measures the bioavailability of toxicants in a complex mixture, accounts for interactions among potential toxicants, and integrates the effects of all constituents. Acute and chronic bioassays are characterized by the duration of exposure of test organisms to a toxicant as well as the adverse effect (measured response) produced as the result of exposure to a toxicant.

Acute toxicity testing consists of a short-term exposure period, usually 96 hours or less, and the acute effect refers to mortality of the test animals. The City of San Diego is required to conduct acute toxicity tests of PLWTP effluent on a semiannual schedule.

Chronic toxicity testing, in the classic sense, refers to long-term exposure of the test organism to a potential toxicant. This may involve exposing the test organism for its entire reproductive life cycle, which may exceed 12 months for organisms such as fish. In general, chronic tests are inherently more sensitive to toxicants than acute tests in that adverse effects are detected at lower toxicant concentrations. The City of San Diego is required to conduct monthly critical/early life stage chronic tests of PLWTP effluent that are intermediate between the acute and chronic toxicity testing protocols discussed above. These test results serve as short-term estimates of chronic toxicity.

MATERIALS & METHODS

Test Materials

Twenty-four hour, flow-weighted, composite effluent samples were collected at the PLWTP and stored at 4 ºC until test initiation. All tests were initiated within 36 hours of sample collection. The effluent exposure series consisted of 3.88, 7.75, 15.5, 31.0, and 62.0% (nominal) for the acute tests and 0.15, 0.27, 0.49, 0.88, and 1.56% for the chronic tests. Unimpacted receiving water from station B8 was used as dilution water in accordance with permit requirements. The B8 receiving water samples were collected from a depth of 2 m, stored at 15 ºC until test initiation, and used for test initiation within 96 hours of collection or frozen to produce hypersaline brine. The station coordinates are as follows:

Collection Location	Latitude/Longitude	Depth (m)
B-8	32° 45.50' N, 117° 20.77' W	88.4

Dilution water for the acute and chronic reference toxicant tests was obtained from the Scripps Institution of Oceanography (SIO), filtered, held at 15 ºC, and used within 96 hours of collection or frozen to produce hypersaline brine. Detailed descriptions for all toxicity tests are provided in the City of San Diego Toxicology Laboratory Quality Assurance Manual (City of San Diego 2012).

Acute Bioassays

Topsmelt Survival Bioassay

During the current reporting period (January–December 2013), acute bioassays using the topsmelt, *Atherinops affinis*, were conducted as a part of the mandated multiple-species screening effort in April and October in accordance with USEPA protocol EPA-821-R02-012 (USEPA 2002).

Larval topsmelt (9–14 days old) were purchased from Aquatic Bio Systems (Fort Collins, CO), and acclimated to test temperature and salinity for at least 24 hours. Upon test initiation, the topsmelt (10 per replicate) were exposed for 96 hours in a static-renewal system to the effluent exposure series. Receiving water and brine controls were also tested. The test solutions were renewed at 48 hours and the organisms were fed once daily.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride plus a negative control (i.e., SIO seawater). Test concentrations consisted of 56, 100, 180, 320, and 560 µg/L copper. Dilution water was obtained from SIO, filtered, held at 15 ºC, and used within 96 hours of collection. Upon conclusion of the exposure period, percent survival was recorded. Tests were declared valid if control mortality did not exceed 10%. Data were analyzed using a combination of multiple comparison and point estimation methods prescribed by USEPA (2002). ToxCalc (Tidepool Scientific Software 2002) and CETIS (Tidepool Scientific Software 2010) were used for all statistical analyses. In addition, all multi-concentration tests conducted according to EPA-821-R02-012 were subjected to an evaluation of the concentration-response relationship.

Mysid Survival Bioassay

During the current reporting period (January–December 2013), acute bioassays using the mysid shrimp, *Mysidopsis bahia*, were conducted as a part of the mandated multiple-species screening effort in April and October in accordance with USEPA protocol EPA-821-R02-012 (USEPA 2002).

Larval mysids (4–5 days old) were purchased from Aquatic Bio Systems (Fort Collins, CO), and acclimated to test temperature and salinity for at least 24 hours. Upon test initiation, the mysids (10 per replicate) were exposed for 96 hours in a static-renewal system to the effluent exposure series. Receiving water and brine controls were also tested. The test solutions were renewed at 48 hours and the organisms were fed once daily.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride plus a negative control (i.e., SIO seawater). Test concentrations consisted of 56, 100, 180, 320, and 560 µg/L copper. Dilution water was obtained from SIO, filtered, held at 15 ºC, and used within 96 hours of collection. Upon conclusion of the exposure period, percent survival was recorded. Tests were declared valid if control mortality did not exceed 10%. Data were analyzed using a combination of multiple comparison and point estimation methods prescribed by USEPA (2002). ToxCalc (Tidepool Scientific Software 2002) and CETIS (Tidepool Scientific Software 2010) were used for all statistical analyses. In addition, all multi-concentration tests conducted according to EPA-821-R02-012 were subjected to an evaluation of the concentration-response relationship.

Chronic Bioassays

Kelp Germination and Growth Test

During the current reporting period (January–December 2013), chronic bioassays using the giant kelp, *Macrocystis pyrifera,* were conducted for the PLWTP effluent on a monthly basis in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995).

Kelp zoospores were obtained from the reproductive blades (sporophylls) of adult *Macrocystis* plants at the kelp beds near La Jolla, California one day prior to test initiation. The zoospores were exposed in a static system for 48 hours to the effluent exposure series. A receiving water control was also tested.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. The exposure series consisted of 5.6, 10, 18, 32, 100, and 180 µg/L copper. A SIO seawater control was also tested.

At the end of the exposure period, 100 randomly-selected zoospores from each replicate were examined and the percent germination was recorded. In addition, germ-tube length was measured and recorded for 10 of the germinated zoospores.

Data were analyzed in accordance with “Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, germination data” and “Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, growth data” (USEPA 1995). ToxCalc (Tidepool Scientific Software 2002) and CETIS (Tidepool Scientific Software 2010) were used for all statistical analyses.

In accordance with USEPA guidelines on method variability, the lower “Percent MSD” (PMSD) bound was also evaluated in order to minimize Type 1 error (i.e., false positive). If the relative difference between an exposure concentration and the control was smaller than the 10^{th} percentile PMSD value listed for the test method in the USEPA guidance document (i.e., 6.5 for germination and 7.9 for growth), then the exposure concentration was treated as if it did not differ significantly from control for the purpose of determining the NOEC (USEPA, 2000).

Red Abalone Development Bioassay

During the current reporting period (January–December 2013), chronic bioassays using the red abalone, *Haliotis rufescens*, were conducted for the PWLTP effluent on a monthly basis in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995). However, due to poor gamete release during spawning induction, two red abalone tests were declared invalid during May and June.

Test organisms were purchased from Cultured Abalone (Goleta, California) and/or American Abalone Farm (Davenport, California), and shipped via overnight delivery to the CSDTL. Mature male and female abalones were placed in gender-specific natural seawater tanks and held at 15 ºC. For each test event, spawning was induced in 6–10 abalones in gender-specific vessels. Eggs and sperm were retained and examined under magnification to ensure good quality. Once deemed acceptable, the sperm stock was used to fertilize the eggs, and a specific quantity of fertilized embryos was added to each test replicate and exposed to the effluent series for 48 hours. A receiving water control was also tested.

Simultaneous reference toxicant testing was performed using reagent grade zinc sulfate. The exposure series consisted of 10, 18, 32, 56, and 100 µg/L zinc. A SIO seawater control was also tested.

At the end of the exposure period, 100 randomly-selected embryos were examined and the number of normally and abnormally developed embryos was recorded. The percentage of normally developed embryos for each replicate was arcsine square root transformed. Data were analyzed in accordance with “Flowchart for statistical analysis of red abalone *Haliotis rufescens*, development data” (USEPA 1995). ToxCalc (Tidepool Scientific Software 2002) and CETIS (Tidepool Scientific Software 2010) were used for all statistical analyses.

The red abalone tests were scored both inclusive and exclusive of unicellular embryos, which can be indicative of poor animal quality. As shown in previous studies, the inclusive scoring method induced greater variability and reduced test sensitivity. Moreover, data from past and present studies showed no association between the distribution of unicellular embryos and exposure to the reference toxicant, which further support the use of the exclusive method in scoring the red abalone tests.

In accordance with USEPA guidelines on method variability, the lower “Percent MSD” (PMSD) bound was also evaluated in order to minimize Type 1 error (i.e., false positive). If the relative difference between an exposure concentration and the control was smaller than the 10^{th} percentile PMSD value listed for the test method in the USEPA guidance document (i.e., 3.8), then the exposure concentration was treated as if it did not differ significantly from control for the purpose of determining the NOEC (USEPA, 2000).

Purple Sea Urchin Fertilization Bioassay

During the current reporting period (January–December 2013), chronic bioassays using the purple sea urchin, *Strongylocentrotus purpuratus*, were conducted for the PLWTP effluent as an alternate to the red abalone development bioassay during months in which gravid red abalones were potentially unavailable or of questionable quality. All tests were conducted in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995).

Test organisms were obtained from the La Jolla kelp beds by City of San Diego personnel and delivered to the CSDTL immediately following collection. The urchins were evaluated for health and evidence of spawning prior to being placed in natural seawater tanks and held at 15 ºC. For each test event, spawning was induced in at least six urchins and gametes from each animal were examined for quantity and quality. Whenever possible, eggs from at least two females and sperm from at least two males were used to create separate egg and sperm stocks. Density of the sperm and egg stocks were determined separately using a hemacytometer and a well slide, respectively.

Test initiation began upon delivery of 90,000 sperm into each test replicate. Following a 20-minute sperm-only exposure, 2,000 eggs were delivered into each test replicate and incubated for an additional 20 minutes to allow fertilization. A receiving water control was also tested.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. The exposure series consisted 10, 18, 32, 56, 100, and 180 µg/L copper. A SIO seawater control was also tested.

At the end of the test period, 100 randomly-selected eggs were examined and the number of fertilized and unfertilized eggs was recorded. The percentage of fertilized eggs for each replicate was arcsine square root transformed. Data were analyzed in accordance with "Flowchart for statistical analysis of sea urchin and sand dollar fertilization data" (USEPA 1995). ToxCalc (Tidepool Scientific Software 2002) and CETIS (Tidepool Scientific Software 2010) were used for all statistical analyses.

In accordance with USEPA guidelines on method variability, the lower "Percent MSD" (PMSD) bound was also evaluated in order to minimize Type 1 error (i.e., false positive). If the relative difference between an exposure concentration and the control was smaller than the 10^{th} percentile PMSD value listed for the test method in the USEPA guidance document (i.e., 5.1), then the exposure concentration was treated as if it did not differ significantly from control for the purpose of determining the NOEC.

RESULTS & DISCUSSION

Acute Toxicity of PLWTP Effluent

In 2013, the City conducted semi-annual acute bioassays of the PLWTP effluent using the topsmelt and mysid shrimp. The two species were tested as the final two of the three-part acute screening event mandated by No. R9-2009-0001. All tests met the acceptability criterion of >90% control survival and demonstrated compliance with permit standards (Table T.1). The results from three valid screening events (October 2012, April 2013, and October 2013) were reviewed and the mysid shrimp was selected as the most sensitive species for subsequent monitoring.

Chronic Toxicity of PLWTP Effluent

In 2013, the City conducted routine chronic bioassays of the PLWTP effluent using the giant kelp as the primary test species. The City also conducted chronic bioassays using the red abalone on a voluntary basis due to the ecological significance of the species. The previously described inclusive and exclusive scoring methods for the abalone tests yielded identical findings (i.e. NOEC) in the effluent tests (Table T.2). Purple sea urchin chronic bioassays were also conducted as an alternate to the red abalone development bioassay during months in which gravid red abalones were not available or of questionable quality.

All valid tests from 2013 were within the compliance limit with the exception of the July 8 giant kelp bioassay. In accordance with notification submitted to the RWQCB in a letter dated July 30, 2013, the City initiated accelerated testing within 14 days of receipt of the July 8 test results and implemented actions consistent with Tier I and Tier II of the current TRE Workplan for the PLWTP. Results from all mandated accelerated tests met the acceptability criteria and were within the compliance limit.

LITERATURE CITED

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USEPA. 1995. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA/600/R-95/136.

USEPA. 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program. U.S. Environmental Protection Agency, Office of Water (4203), EPA 833-R-00-003.

USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Fifth Edition. U.S. Environmental Protection Agency, Office of Water (4303T), Washington, DC, EPA-821-R-02-012.

TABLE T.1

Results of PLWTP effluent semi-annual acute toxicity tests conducted in 2013. Data are presented as acute toxic units (TUa).

Sample Date	Topsmelt 96-Hour Bioassay	Mysid 96-Hour Bioassay
04/21/2013	4.62	4.41
10/27/2013	2.50	3.92
N	2	2
No. in compliance	2	2
Mean TUa	3.57	4.17

NPDES permit limit: 6.42 TUa

TABLE T.2

Results of PLWTP effluent monthly chronic toxicity tests conducted in 2013. Data are presented as chronic toxic units (TUc).

	Giant Kelp		Red Abalone		Purple Urchin
	Germination	Growth	Development		Fertilization
Sample Date			Exclusive	Inclusive	
01/07/2013	-	-	64	64	-
01/14/2013	64	64	-	-	-
02/04/2013	N.V.	N.V.	-	-	-
02/19/2013	64	64	64	64	-
03/04/2013	114	64	-	-	-
03/11/2013	-	-	64	64	-
04/15/2013	64	64	-	-	-
04/21/2013	-	-	64	114	-
05/07/2013	64	64	-	-	-
05/13/2013	-	-	N.V.	N.V.	64
060/3/2013	64	N.V.	-	-	-
06/10/2013	-	-	N.V.	N.V.	-
06/25/2013	N.V.	64	-	-	64
07/07/2013	114	114	-	-	-
07/08/2013	370	370	-	-	-
07/15/2013	-	-	64	64	-
07/23/2013	114	64	-	-	-
08/05/2013	114	64	-	-	-
08/12/2013	-	-	64	64	-
02/20/2013	204	204	-	-	-
09/10/2013	114	204	-	-	-
09/16/2013	0	-	64	64	-
09/24/2013	204	114	-	-	-
10/07/2013	204	114	-	-	-
10/15/2013	-	-	64	64	-
11/04/2013	114	114	-	-	-
11/12/2013	204	114	-	-	-
11/18/2013	-	-	64	64	-
12/02/2013	64	64	-	-	-
12/10/2013	-	-	64	64	-
N	18	17	10	10	2
No. in Compliance	17	16	10	10	2
Mean TUa	125	121	64	69	64

NPDES permit limit: 205 TUc

N.V.: Test not valid

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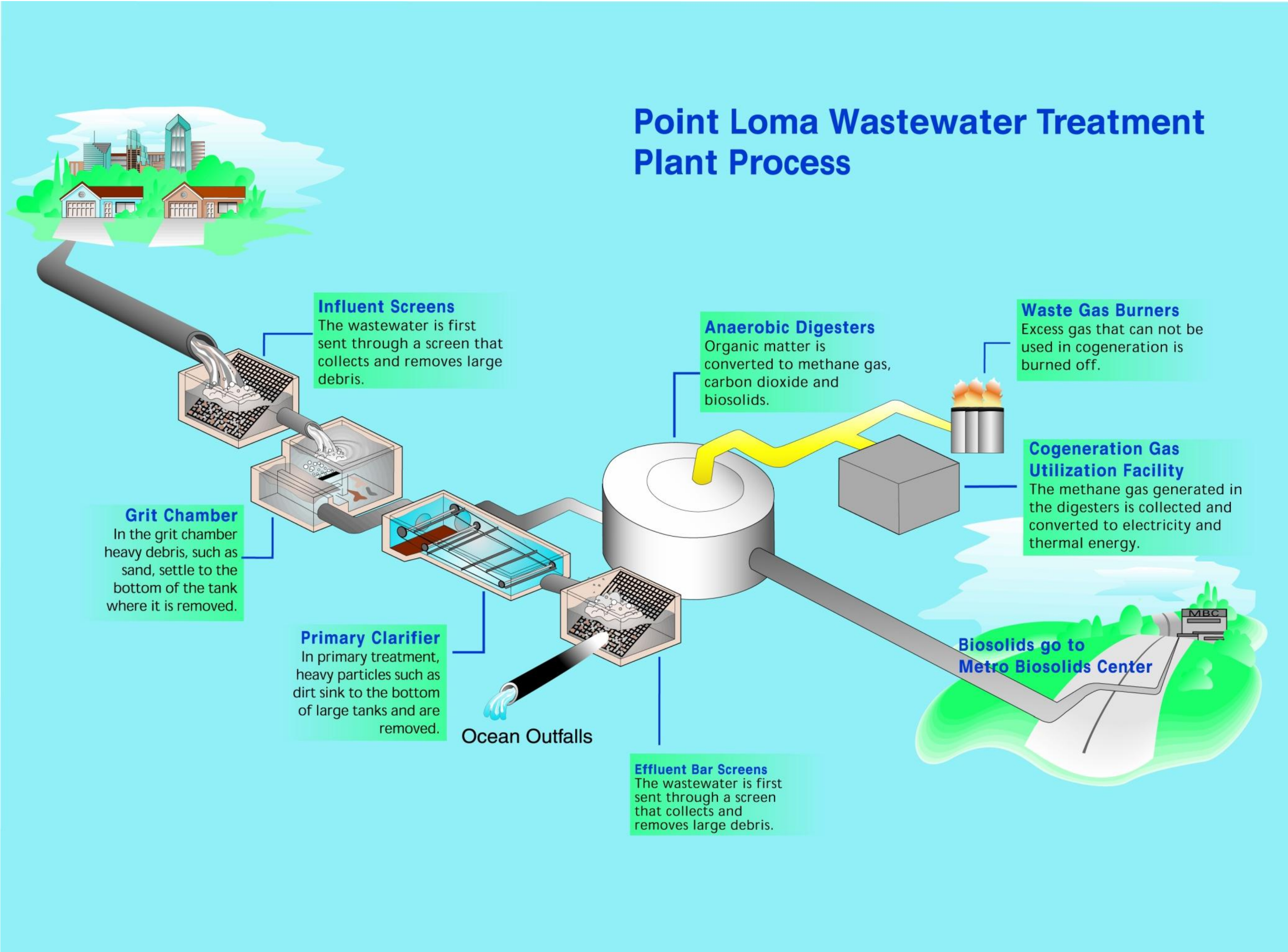

Point Loma Wastewater Treatment Plant Process
Influent Screens
The wastewater is first sent through a screen that collects and removes large debris.
Anaerobic Digesters
Organic matter is converted to methane gas, carbon dioxide and biosolids.
Waste Gas Burners
Excess gas that can not be used in cogeneration is burned off.
Cogeneration Gas Utilization Facility
The methane gas generated in the digesters is collected and converted to electricity and thermal energy.
Grit Chamber
In the grit chamber heavy debris, such as sand, settle to the bottom of the tank where it is removed.
Primary Clarifier
In primary treatment, heavy particles such as dirt sink to the bottom of large tanks and are removed.
Ocean Outfalls
Effluent Bar Screens
The wastewater is first sent through a screen that collects and removes large debris.
Biosolids go to Metro Biosolids Center
MBC

POINT LOMA TREATMENT PLANT PROCESS FLOW DIAGRAM

Wastewater Laboratory Testing

S1 Suspended solids and B.O.D, as well as all permit required parameters tested to show plant removal efficiencies

S2 Contract specifications tests run on Ferric Chloride

S3 specification testing done.

S4 Total and volatile solids tested to later determine if solids reduction meets treatment standard

S5 Digester volatile acids, pH, and alkalinity tested to determine if this feed rate, temperature and mixing are in the correct balance for the right microbial population to digest the sludge

S6 Volatile solids tested and removal rates used to determine how well the sludge was stabilized and if it meets EPA standards for nuisance & biological hazard reduction.

S7 Final Biosolids tested for all EPA and health dept. standards to determine the best beneficial reuse options.

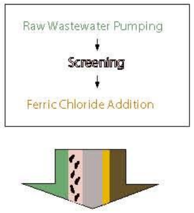
S8 Digester gas tested for percent methane, to determine if the microbial populations in the digester are in proper balance, and to indicate fuel value of digester gas. Hydrogen Sulfide tested to determine the corrosivity of the gas to the power generation equipment and air pollution potential.

S9 % percent moisture tested to assure that landfill criteria are met

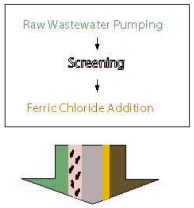
S10 All priority pollutants and other chemicals of concern are tested and the results compared to our discharge standards and reported to state and national regulators. The removal rates for solids on B.O.D. are used by Operations to guide adjustments to the treatment plant.

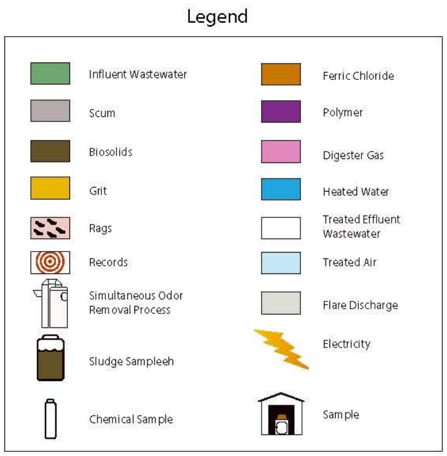
S11 Ocean water, sediments and fish tested to see if our discharge has an impact

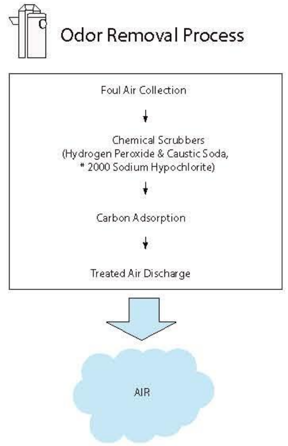
Pump Station 1



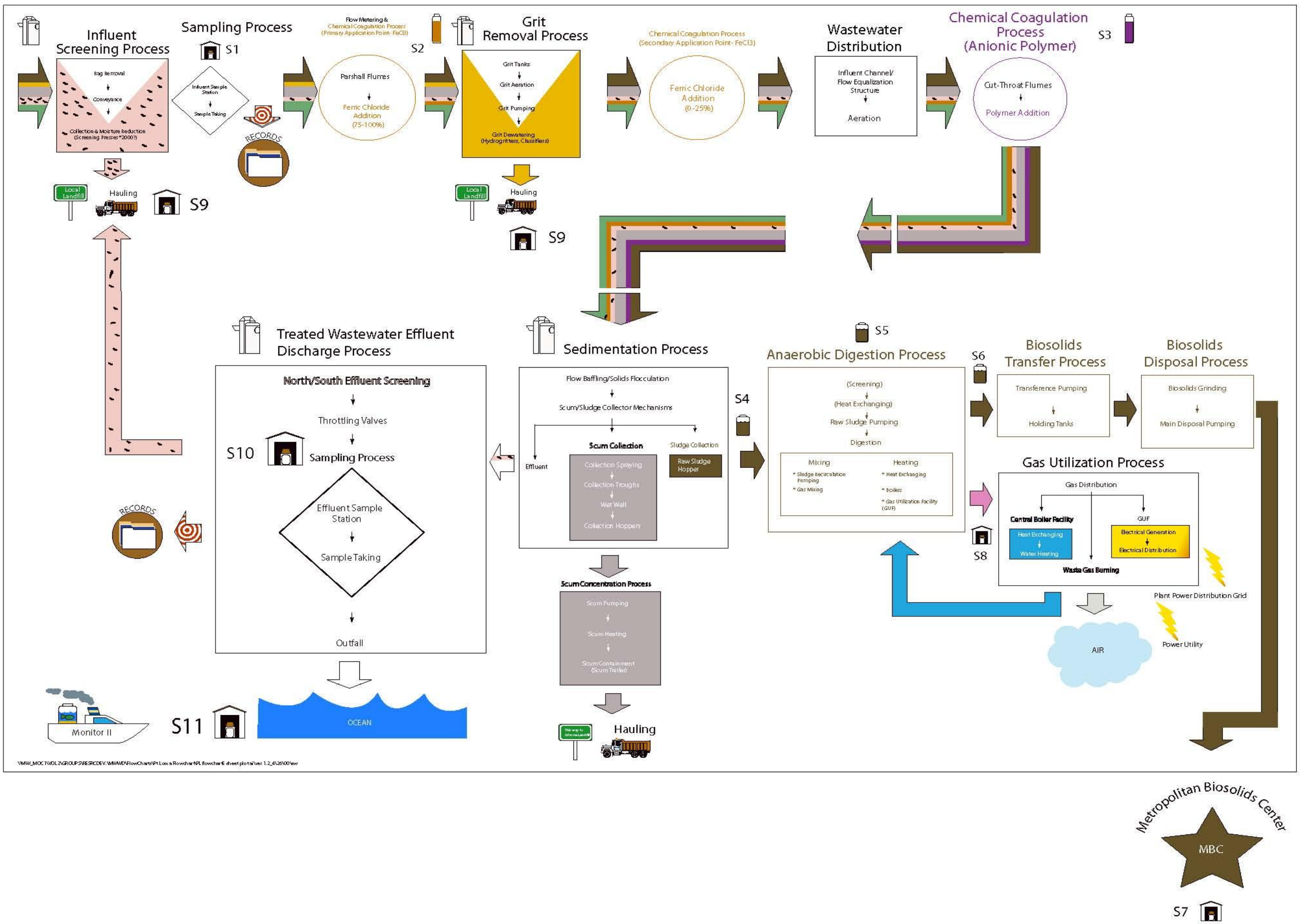
Pump Station 2







Point Loma Wastewater Treatment Plant



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III. Plant Operations Summary

A. Flows
B. Rain Days
C. Solids Production
D. Chemical Usage
E. Gas Production
F. Graphs of Chemical Usage
G. Facilities Out-of-Service Report
H. Grit Analyses
I. Raw Sludge Data Summary
J. Digester and Digested Sludge Data Summary

A. Flows

Point Loma Wastewater Treatment Plant Annual Monitoring Report
Flow Report – 2013

WASTEWATER FLOWS
Daily Average Flows - Millions of Gallons

Mon	Pt. L Gould	Pt. L ADS	PS#2 Flow	PS#2 Pumps	PS#1 Flows
01	155.4	163.5	152.4	141.1	82.4
02	150.1	151.8	150.6	146.4	55.2
03	149.1	148.3	149.9	148.5	51.4
04	143.4	196.0	144.6	140.3	52.5
05	143.6	147.1	143.6	137.9	52.9
06	139.9	146.2	142.6	134.8	51.0
07	143.9	140.6	145.0	142.0	54.2
08	139.2	137.5	142.6	125.7	54.1
09	138.3	141.5	140.6	137.3	53.4
10	139.6	130.4	143.6	136.9	48.4
11	141.8	143.9	142.1	135.4	50.0
12	141.0	139.6	139.5	132.3	53.1
avg	143.8	148.9	144.7	138.2	54.9
sum	1,725.3	1,786.3	1,736.9	1,658.6	658.6

WASTEWATER FLOWS
Monthly Total Flows - Millions of Gallons

Mon	Pt. L Gould	Pt. L ADS	PS#2 Flow	PS#2 Pumps	PS#1 Flows
01	4,816	5,070	4,723	4,373	2,554
02	4,203	4,249	4,216	4,099	1,546
03	4,623	4,596	4,646	4,602	1,593
04	4,303	5,879	4,337	4,208	1,576
05	4,451	4,561	4,451	4,276	1,641
06	4,197	4,386	4,277	4,045	1,530
07	4,460	4,357	4,494	4,401	1,679
08	4,316	4,262	4,421	3,896	1,678
09	4,149	4,245	4,218	4,119	1,601
10	4,326	4,043	4,450	4,245	1,501
11	4,254	4,317	4,264	4,063	1,499
12	4,372	4,327	4,325	4,103	1,646
avg	4,372	4,524	4,402	4,203	1,670
sum	52,470	54,292	52,821	50,430	20,045

NOTES: The flows taken at the Pt. Loma WWTP are from the Parshall flumes at the headworks. Water depth in the flume is measured by 2 meters. The Gould meters measure water pressure. The ADS meters are sonar devices that measure the distance of the water level below the meter. The flows through Pump Station II(PS#2) are from venturi meters. PS#2 flow is the flow from the totalizer to which all of the venturi meters feed. PS#2 Pumps is the sum of the readings on the individual venturi meters which are connected to each of the pumps at the pump station. PS#1 is the flow from the venturi meters at Pump Station 1.

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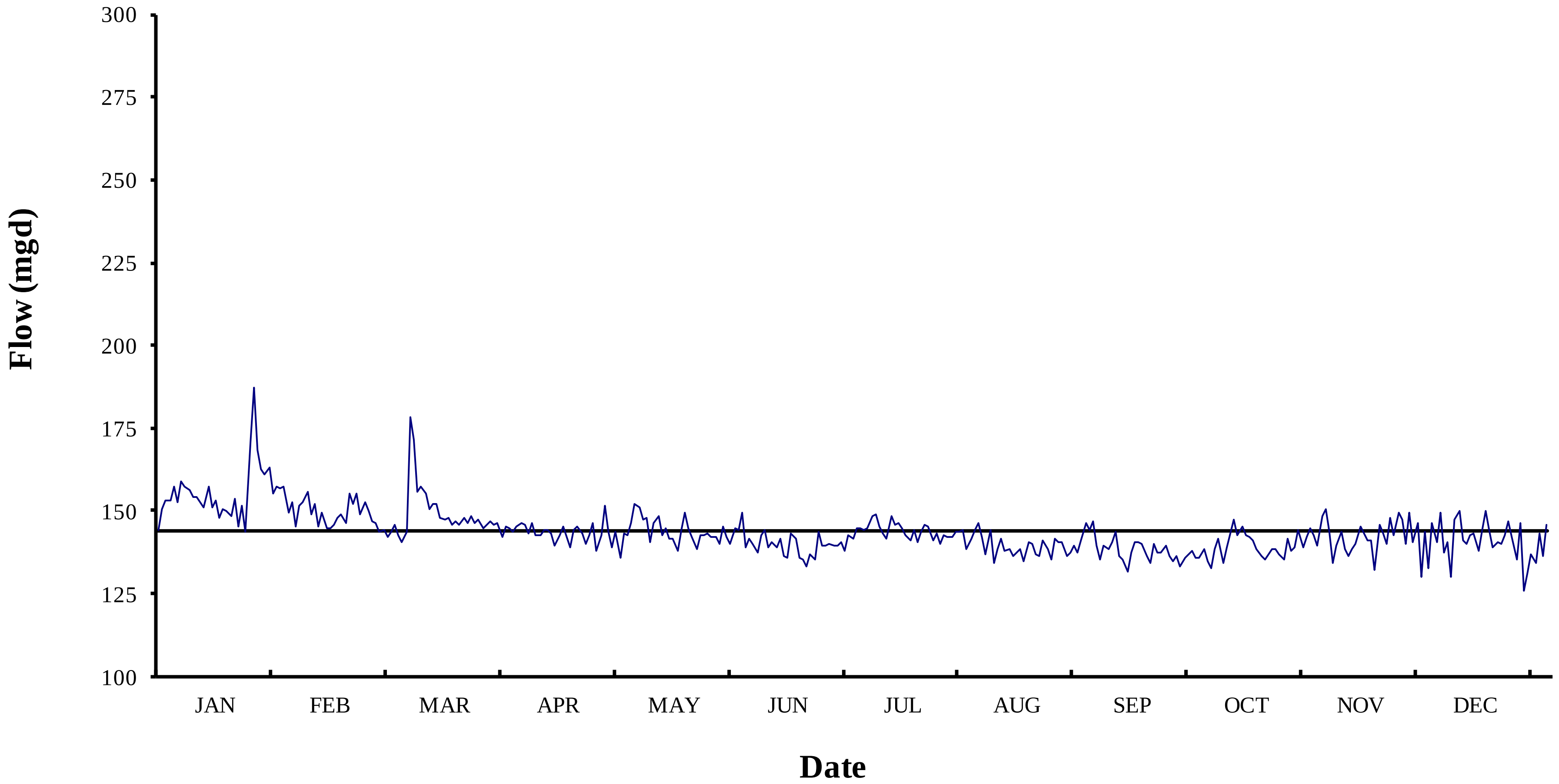
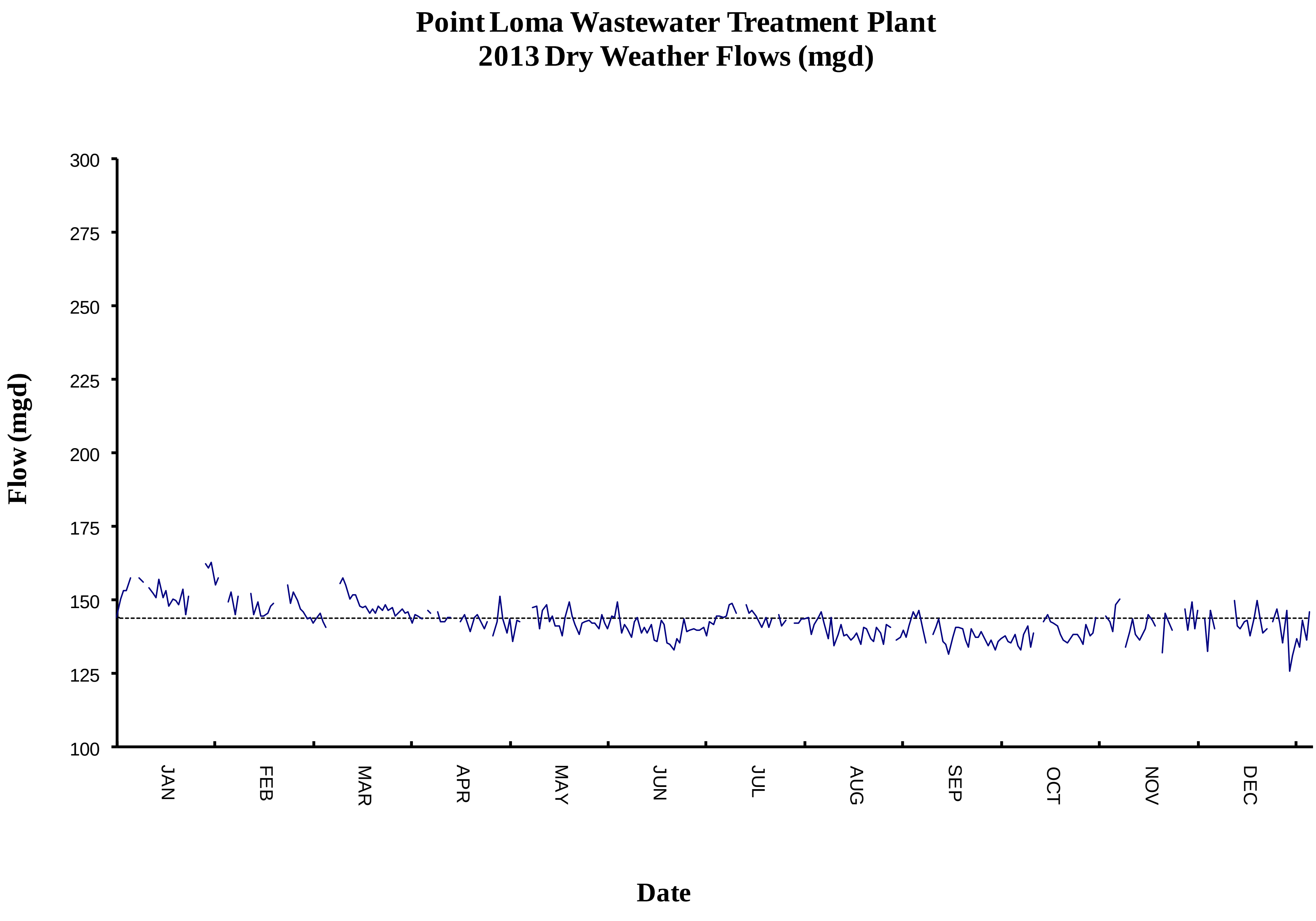
Point Loma Wastewater Treatment Plant
2013 Daily Flows (mgd)



Point Loma Wastewater Treatment Plant
2013 Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	144.1	157.6	144.1	142.1	143.6	144.6	142.8	138.6	146.1	135.7	139.6	146.6	
2	150.6	156.6	142.1	145.1	136.0	144.1	141.6	141.6	144.1	138.2	148.6	140.5	
3	153.1	157.1	143.6	144.6	143.1	149.5	144.7	144.1	146.7	134.5	150.6	149.3	
4	153.1	149.6	145.6	143.6	142.6	139.0	144.6	146.1	139.6	132.9	143.7	137.6	
5	157.6	152.6	142.6	145.1	146.1	141.6	144.1	142.1	135.5	138.6	134.3	140.4	
6	152.6	145.3	140.6	146.6	152.1	140.1	144.6	137.1	139.5	141.4	139.6	130.1	
7	159.1	151.6	143.6	145.6	151.2	137.3	148.6	144.1	138.5	134.1	143.8	147.6	
8	157.6	152.6	178.5	143.1	147.4	142.6	148.9	134.4	140.6	138.8	138.6	150.1	
9	156.1	155.7	171.6	146.1	147.8	144.1	145.5	138.6	143.6	143.3	136.6	141.1	
10	154.1	149.2	155.6	142.6	140.5	139.1	143.0	141.6	136.2	147.2	138.6	140.1	
11	154.1	152.1	157.6	142.6	146.6	140.6	141.6	138.1	135.2	142.9	140.1	142.6	
12	152.4	145.1	155.1	144.1	148.6	139.1	148.6	138.5	131.6	145.1	145.1	143.1	
13	151.1	149.3	150.6	144.1	142.5	141.6	145.6	136.6	137.6	142.6	143.1	138.1	
14	157.1	144.8	152.1	143.3	144.8	136.5	146.6	137.6	140.6	142.1	141.1	144.1	
15	151.1	144.8	152.1	139.6	141.4	136.1	144.6	138.7	140.6	141.1	141.1	150.1	
16	153.1	145.7	148.1	142.6	141.4	143.1	142.9	135.0	140.1	138.6	132.1	144.3	
17	148.1	147.8	147.6	145.1	137.9	141.6	140.9	140.6	136.6	136.6	145.6	138.9	
18	150.3	148.9	148.1	142.0	144.1	135.6	144.1	140.1	134.1	135.6	143.0	140.5	
19	150.1	146.1	145.6	139.2	149.6	135.1	140.6	137.1	140.1	137.1	140.1	139.9	
20	148.6	155.1	147.1	144.1	144.7	133.1	143.6	136.1	137.5	138.6	147.9	142.6	
21	153.6	152.1	145.6	145.1	141.9	137.1	145.6	141.0	137.5	138.6	142.6	147.1	
22	145.1	155.1	148.1	143.0	138.5	135.6	145.1	138.7	139.6	137.1	149.5	142.1	
23	151.6	149.1	146.6	140.2	142.4	143.6	141.1	135.1	136.5	135.1	147.1	135.6	
24	143.6	152.6	148.6	142.6	142.5	139.5	143.1	141.6	134.6	141.6	140.0	146.6	
25	171.1	150.1	146.6	146.6	143.1	139.6	140.1	140.6	136.6	138.1	149.4	126.1	
26	187.1	146.8	147.6	138.1	142.1	140.1	142.6	140.6	133.1	139.1	140.4	131.1	
27	168.6	146.1	144.6	142.6	142.0	139.7	142.1	136.4	136.1	144.1	146.6	137.1	
28	162.6	143.6	145.6	151.6	140.1	139.6	142.1	137.2	136.8	139.1	130.1	134.1	
29	161.1		147.1	143.5	145.1	140.6	143.5	139.6	138.1	142.1	143.6	143.1	
30	163.1		145.6	139.0	142.1	137.9	143.6	137.5	136.1	144.6	132.6	136.6	Annual
31	155.1		146.1		140.1		144.1	141.2		142.6		146.0	Summary
Average	155.4	150.1	149.1	143.4	143.6	139.9	143.9	139.2	138.3	139.6	141.8	141.0	143.8
Minimum	143.6	143.6	140.6	138.1	136.0	133.1	140.1	134.4	131.6	132.9	130.1	126.1	126
Maximum	187.1	157.6	178.5	151.6	152.1	149.5	148.9	146.1	146.7	147.2	150.6	150.1	187
Total	4815.9	4202.5	4479.2	4160.8	4307.7	4052.5	4316.9	4177.0	4002.6	4190.5	4114.9	4225.7	52470


Point Loma Wastewater Treatment Plant
2013 Dry Weather Flows (mgd)
Flow (mgd)
300
275
250
225
200
175
150
125
100
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Date

Point Loma Wastewater Treatment Plant
2013 Dry Weather Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	144.1	157.6	144.1	142.1	143.6	144.6	142.8	138.6	146.1	135.7	139.6	146.6	
2	150.6		142.1	145.1	136.0	144.1	141.6	141.6	144.1	138.2	148.6	140.5	
3	153.1		143.6	144.6	143.1	149.5	144.7	144.1	146.7	134.5	150.6		
4	153.1	149.6	145.6	143.6	142.6	139.0	144.6	146.1	139.6	132.9		137.6	
5	157.6	152.6	142.6			141.6	144.1	142.1	135.5	138.6	134.3		
6		145.3	140.6	146.6		140.1	144.6	137.1		141.4	139.6	130.1	
7		151.6		145.6		137.3	148.6	144.1	138.5	134.1	143.8		
8	157.6				147.4	142.6	148.9	134.4	140.6	138.8	138.6	150.1	
9	156.1			146.1	147.8	144.1	145.5	138.6	143.6		136.6	141.1	
10			155.6	142.6	140.5	139.1		141.6	136.2		138.6	140.1	
11	154.1	152.1	157.6	142.6	146.6	140.6		138.1	135.2	142.9	140.1	142.6	
12	152.4	145.1	155.1	144.1	148.6	139.1	148.6	138.5	131.6	145.1	145.1	143.1	
13	151.1	149.3	150.6	144.1	142.5	141.6	145.6	136.6	137.6	142.6	143.1	138.1	
14	157.1	144.8	152.1		144.8	136.5	146.6	137.6	140.6	142.1	141.1	144.1	
15	151.1	144.8	152.1		141.4	136.1	144.6	138.7	140.6	141.1		150.1	
16	153.1	145.7	148.1	142.6	141.4	143.1	142.9	135.0	140.1	138.6	132.1	144.3	
17	148.1	147.8	147.6	145.1	137.9	141.6	140.9	140.6	136.6	136.6	145.6	138.9	
18	150.3	148.9	148.1	142.0	144.1	135.6	144.1	140.1	134.1	135.6	143.0	140.5	
19	150.1		145.6	139.2	149.6	135.1	140.6	137.1	140.1	137.1	140.1		
20	148.6		147.1	144.1	144.7	133.1	143.6	136.1	137.5	138.6		142.6	
21	153.6		145.6	145.1	141.9	137.1		141.0	137.5	138.6		147.1	
22	145.1	155.1	148.1	143.0	138.5	135.6	145.1	138.7	139.6	137.1		142.1	
23	151.6	149.1	146.6	140.2	142.4	143.6	141.1	135.1	136.5	135.1	147.1	135.6	
24		152.6	148.6	142.6	142.5	139.5	143.1	141.6	134.6	141.6	140.0	146.6	
25		150.1	146.6		143.1	139.6		140.6	136.6	138.1	149.4	126.1	
26		146.8	147.6	138.1	142.1	140.1			133.1	139.1	140.4	131.1	
27		146.1	144.6	142.6	142.0	139.7	142.1	136.4	136.1	144.1	146.6	137.1	
28	162.6	143.6	145.6	151.6	140.1	139.6	142.1	137.2	136.8			134.1	
29	161.1		147.1	143.5	145.1	140.6	143.5	139.6	138.1		143.6	143.1	
30	163.1		145.6	139.0	142.1	137.9	143.6	137.5	136.1	144.6	132.6	136.6	Annual
31	155.1		146.1		140.1		144.1	141.2		142.6		146.0	Summary
Average	153.3	148.9	147.5	143.4	142.9	139.9	144.1	139.2	138.2	139.1	141.7	140.6	143
Minimum	144.1	143.6	140.6	138.1	136.0	133.1	140.6	134.4	131.6	132.9	132.1	126.1	126
Maximum	163.1	157.6	157.6	151.6	149.6	149.5	148.9	146.1	146.7	145.1	150.6	150.1	163
Total	3679.8	2978.3	4129.5	3585.3	4002.0	4197.0	3747.0	4175.0	4009.1	3754.6	3399.6	3795.1	45452

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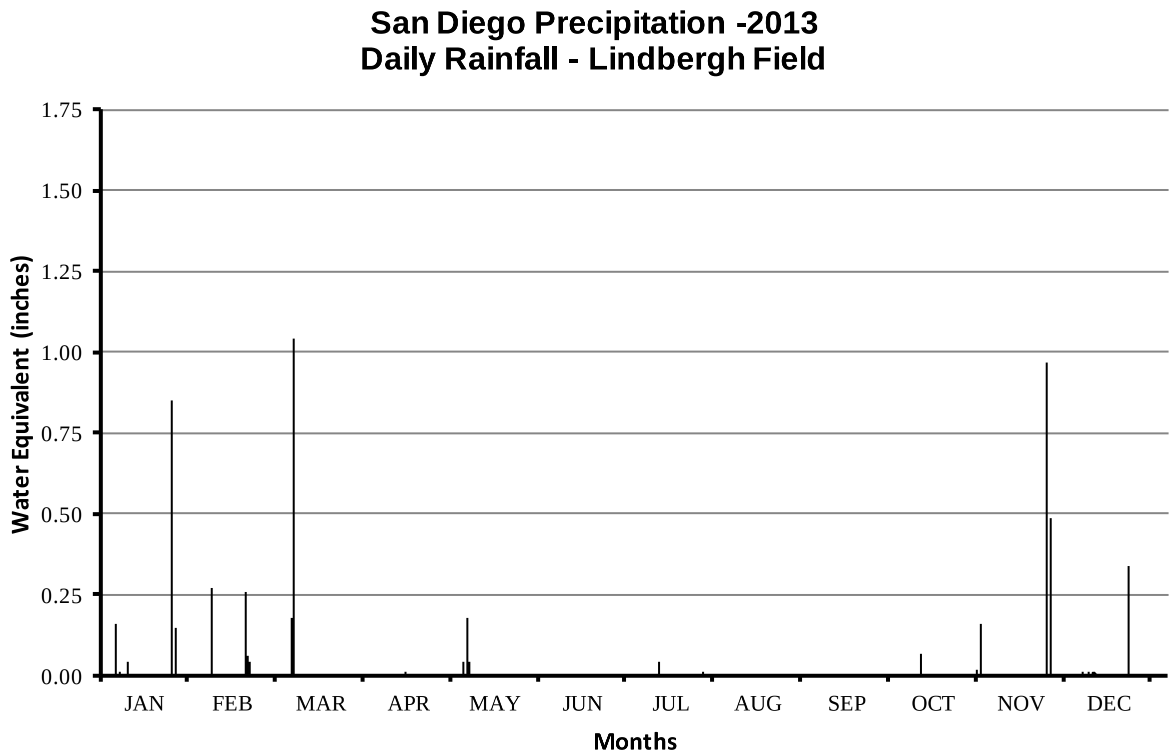
B. Rain Days



San Diego Precipitation -2013
Daily Rainfall - Lindbergh Field
Water Equivalent (inches)
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Months

San Diego Precipitation – 2013
Daily Rainfall – Lindbergh Field

Total Annual Precipitation=5.46 **Maximum=1.04** **Trace=0**

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Date	Rain	Date	Rain	Date	Rain	Date	Rain
6-Jan-13	0.16	5-Apr-13	T	10-Jul-13	T	9-Oct-13	0.07
7-Jan-13	0.01	8-Apr-13	T	11-Jul-13	0.04	10-Oct-13	T
10-Jan-13	0.04	14-Apr-13	T	21-Jul-13	T	28-Oct-13	0.02
24-Jan-13	T	15-Apr-13	0.01	25-Jul-13	T	29-Oct-13	0.16
25-Jan-13	0.85	25-Apr-13	T	26-Jul-13	0.01	4-Nov-13	T
26-Jan-13	0.15	5-May-13	0.04	26-Aug-13	T	15-Nov-13	T
27-Jan-13	T	6-May-13	0.18	6-Sep-13	T	20-Nov-13	T
2-Feb-13	T	7-May-13	0.04			21-Nov-13	0.97
3-Feb-13	T					22-Nov-13	0.49
8-Feb-13	0.27					28-Nov-13	T
9-Feb-13	T					3-Dec-13	0.01
10-Feb-13	T					5-Dec-13	0.01
19-Feb-13	0.26					7-Dec-13	0.01
20-Feb-13	0.06					19-Dec-13	0.34
21-Feb-13	0.04						
7-Mar-13	0.18						
8-Mar-13	1.04						
9-Mar-13	T						
TOTALS	3.06		0.27		0.05		2.08

C. Solids Production

Point Loma Annual Monitoring Report
Solids Report – TOTALS
From 01-JAN-2013 to 31-DEC-2013

Month	Pt. Loma Raw sludge Gallons	Dry Tons	Pt.Loma Digested Sludge Gallons	Dry Tons	MBC Combined Centrate Gallons	Dry Tons	MBC Dewatered Sludge Wet Tons	Dry Tons
01	38,490,803	6,482	38,490,810	3,378	68,532,626	820	9,332	2,679
02	33,988,986	5,669	33,190,253	2,972	57,703,102	686	7,682	2,168
03	37,077,555	6,404	37,077,435	3,217	67,369,334	843	7,694	2,188
04	35,079,165	6,425	35,079,165	3,316	64,470,543	932	8,950	2,432
05	36,950,497	6,561	33,055,754	3,120	67,627,455	1,201	10,401	2,850
06	33,721,378	6,231	33,721,378	3,473	59,726,565	1,345	8,285	2,335
07	38,685,128	6,167	38,685,128	3,908	72,394,328	1,490	10,344	2,793
08	40,229,325	6,530	40,229,325	3,805	73,975,551	1,254	11,568	3,147
09	36,382,612	6,170	36,385,231	3,543	72,123,348	1,163	10,739	2,941
10	39,227,706	6,496	39,227,706	3,656	71,616,026	1,021	11,205	3,026
11	39,242,189	6,590	39,242,189	3,755	73,478,457	1,042	11,041	3,062
12	35,520,140	6,122	35,520,140	3,505	64,344,821	727	10,402	2,902
avg	37,049,624	6,321	36,658,710	3,471	67,780,180	1,044	9,803	2,710
sum	444,595,484	75,848	439,904,514	41,648	813,362,156	12,524	117,642	32,523

Point Loma Annual Monitoring Report
Solids Report - Daily Averages by Month
From 01-JAN-2013 to 31-DEC-2013

Year Month	Pt. Loma Raw sludge Gallons	%TS	Dry Tons	Pt.Loma Digested Sludge Gallons	%TS	Dry Tons	MBC Combined Centrate Gallons	%TS	Dry Tons	MBC Dewatered Sludge Wet Tons	%TS	Dry Tons
13-01	1,241,639	4.0	208	1,241,639	2.1	109	2,210,730	0.29	26.4	301	28.7	86.4
13-02	1,213,892	4.0	207	1,185,366	2.1	105	2,060,825	0.29	25.4	274	28.2	77.4
13-03	1,196,050	4.1	214	1,196,046	2.1	102	2,173,204	0.30	27.2	248	28.4	70.6
13-04	1,169,306	4.4	212	1,169,306	2.3	111	2,149,018	0.35	31.1	298	27.2	81.1
13-05	1,191,952	4.3	212	1,066,315	2.3	101	2,181,531	0.43	37.7	336	27.4	91.9
13-06	1,124,046	4.4	204	1,124,046	2.5	112	1,990,886	0.54	43.2	276	28.2	77.8
13-07	1,247,907	3.8	200	1,247,907	2.4	126	2,335,301	0.49	48.1	334	27.0	90.1
13-08	1,297,720	3.9	211	1,297,720	2.3	123	2,386,308	0.41	40.4	373	27.2	101.5
13-09	1,212,754	4.1	204	1,212,841	2.3	117	2,404,112	0.39	38.8	358	27.4	98.0
13-10	1,265,410	4.0	209	1,265,410	2.2	118	2,310,194	0.34	33.0	361	27.0	97.6
13-11	1,308,073	4.0	220	1,308,073	2.3	125	2,449,282	0.34	34.8	368	27.7	102.1
13-12	1,145,811	4.1	200	1,145,811	2.4	113	2,075,639	0.27	23.7	336	27.9	93.6
avg	1,217,880	4.1	208	1,205,040	2.3	114	2,227,253	0.37	34.1	322	27.7	89.0

Note: A ton is a “short ton” or 2000 lbs of dry solids.
The mechanical condition of the cake pumps and the variability of sludge concentrations can affect the overall accuracies of these reported values.

D. Chemical Usage

Point Loma Annual Chemical Usage Report
Monthly Totals - 2013

Month	Polymer Pt.Loma Gallons	ACTIVE Polymer Pt.Loma Lbs.	Ferric Chloride PS #2 Gallons	Ferrous Chloride PS #2 Gallons	Ferric Chloride Pt.Loma Gallons	Sodium hydroxide PS #1 Gallons	Sodium hydroxide PS #2 Gallons	Sodium hydroxide Pt.Loma Gallons	NaOCl PS #1 Gallons	NaOCl PS #2 Gallons	NaOCl Pt.Loma Gallons	Salt PS #1 Lbs.	Salt PS #2 Lbs.	Salt Pt.Loma Lbs.
01	135,798	5,710	0		82,410	472	32	3,918	215	2,661	484,591	1,420	600	15,500
02	118,198	4,968	0		69,528	369	32	3,820	219	2,523	425,897	1,000	450	14,000
03	129,579	5,446	0		77,761	465	23	3,726	261	2,010	446,473	1,150	900	15,500
04	120,899	5,085	0		74,830	312	8	3,273	159	1,663	430,750	2,400	300	15,000
05	124,112	5,218	0		77,472	493	44	4,504	318	3,394	482,097	2,000	4,900	15,500
06	117,832	4,954	0		72,183	309	48	5,025	222	2,791	489,187	5,800	400	15,000
07	132,402	5,570	0		81,916	465	81	4,294	236	3,161	594,669	1,750	200	15,500
08	146,487	6,156	0		93,363	556	40	4,445	563	3,183	707,279	1,250	0	15,500
09	141,648	5,956	0		90,178	400	55	3,340	183	3,086	728,005	550	1,002	15,000
10	147,255	6,190	0		93,274	486	32	4,870	477	3,434	753,351	600	0	15,500
11	145,063	6,102	0		91,588	274	24	4,018	330	3,436	730,448	350	150	15,000
12	149,029	6,266	0		94,545	273	32	3,724	141	1,444	429,545	500	750	15,500
avg	134,025	5,635	0		83,254	406	38	4,080	277	2,732	558,524	1,564	804	15,208
sum	1,608,301	67,621	0		999,048	4,874	451	48,957	3,324	32,786	6,702,292	18,770	9,652	182,500

E. Gas Production

Point Loma Wastewater Treatment Plant
Gas Report - 2013

Daily Monthly Averages

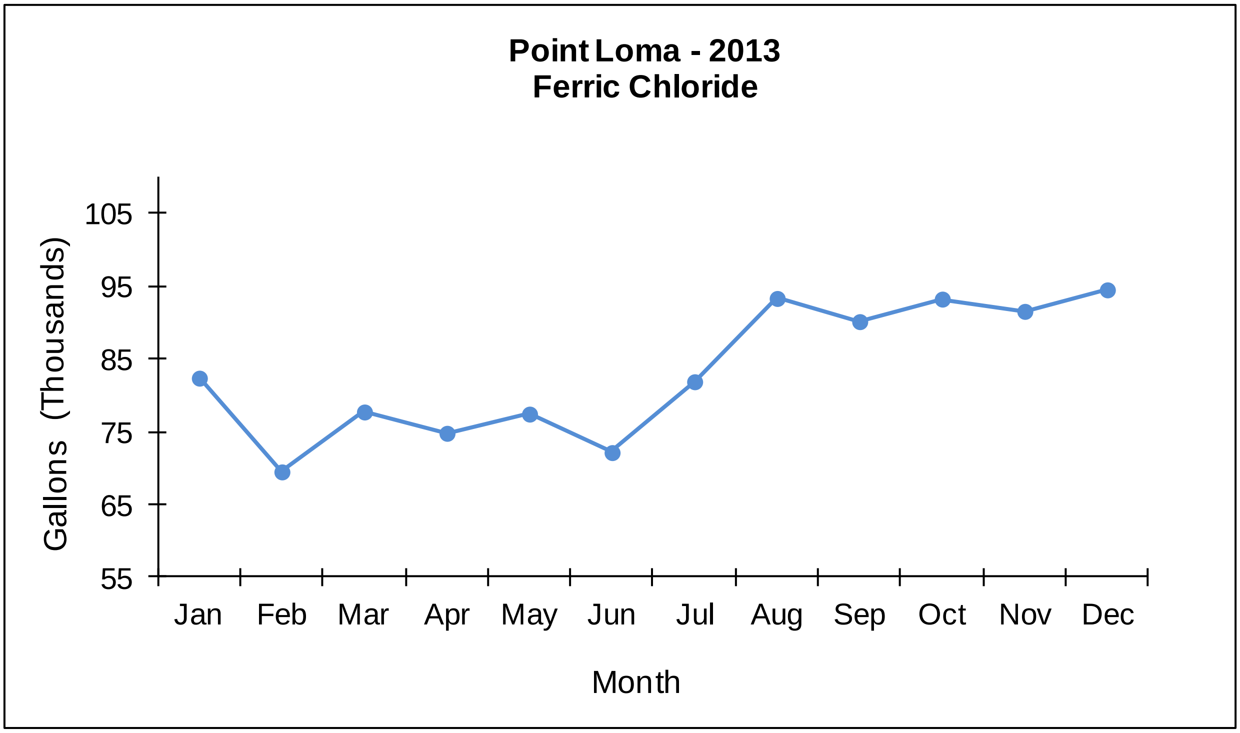
Month	GAS PRODUCTION (x1000 Cu. Ft.)									GAS CONSUMPTION (x1000 Cu. Ft.)			
	N-1-P	N-2-P	C-1-P	C-2-P	S-1-P	S-2-P	Dig 7	Dig 8	Total	Boilers	Burners	GUF	Total
01	479.7	532.5	500.0	436.2	485.6	430.1	98.8	*	2,864.2	156	1,410	1,797	3,363
02	452.9	509.7	466.7	453.0	477.5	420.1	96.4	71.1	2,780.0	159	1,378	1,810	3,346
03	422.2	436.7	417.1	409.8	412.5	348.5	80.0	556.7	2,446.8	239	2,216	991	3,447
04	111.6	141.9	527.6	487.8	494.1	437.7	90.4	746.0	2,200.8	153	1,994	1,266	3,412
05	224.4	249.0	446.8	461.3	444.6	380.2	87.7	742.7	2,206.2	52	1,502	1,794	3,349
06	373.0	457.6	389.7	381.2	374.7	321.3	79.1	495.2	2,297.6	38	1,396	1,716	3,150
07	379.1	459.5	362.3	366.2	340.6	299.4	76.3	513.6	2,207.1	43	1,175	1,819	3,037
08	424.1	517.5	433.1	188.8	427.0	371.5	89.2	616.8	2,361.9	24	1,499	1,841	3,365
09	421.0	482.5	485.4	*	464.7	394.0	85.3	616.9	2,247.6	42	1,415	1,781	3,239
10	431.5	356.4	490.7	*	476.0	411.7	94.5	754.3	2,166.3	126	2,387	869	3,382
11	503.9	21.8	547.4	*	504.6	442.6	104.4	890.8	2,020.1	119	1,605	1,696	3,419
12	438.5	.0	572.6	*	475.6	462.9	96.3	973.0	1,949.5	122	1,459	1,799	3,380
avg	388.5	347.1	470.0	265.4	448.1	393.3	89.9	581.4	2,312.3	106	1,620	1,598	3,324

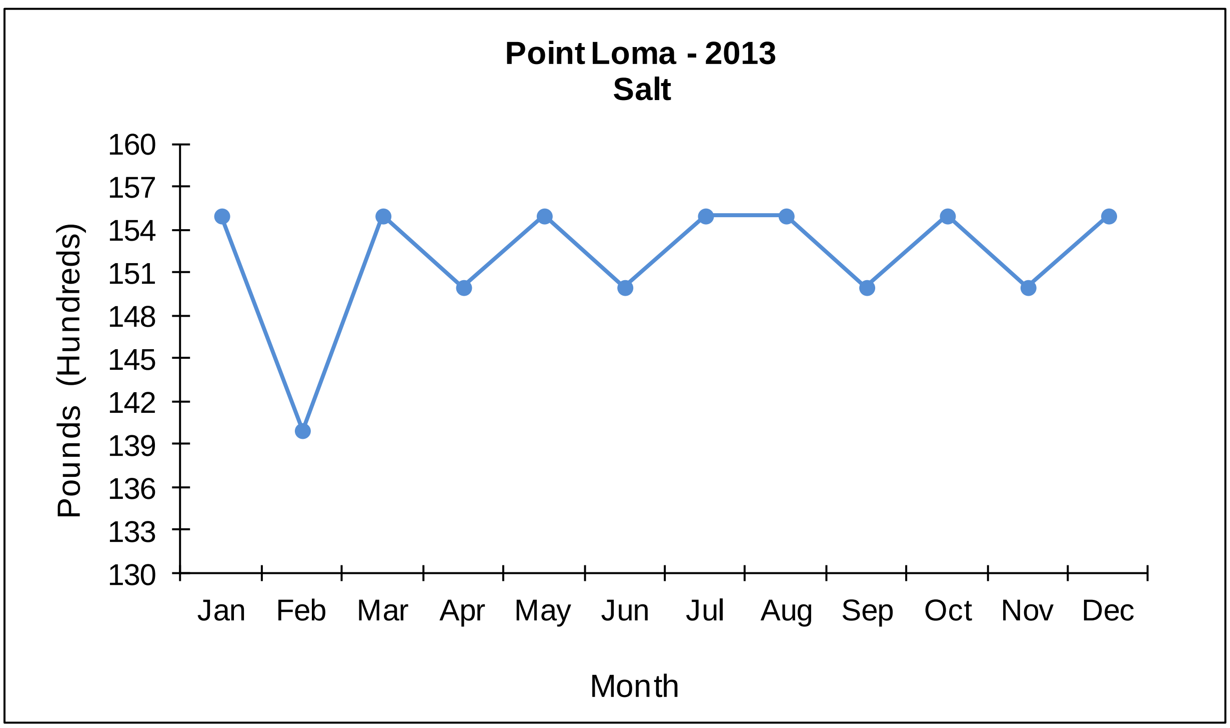
Monthly Totals

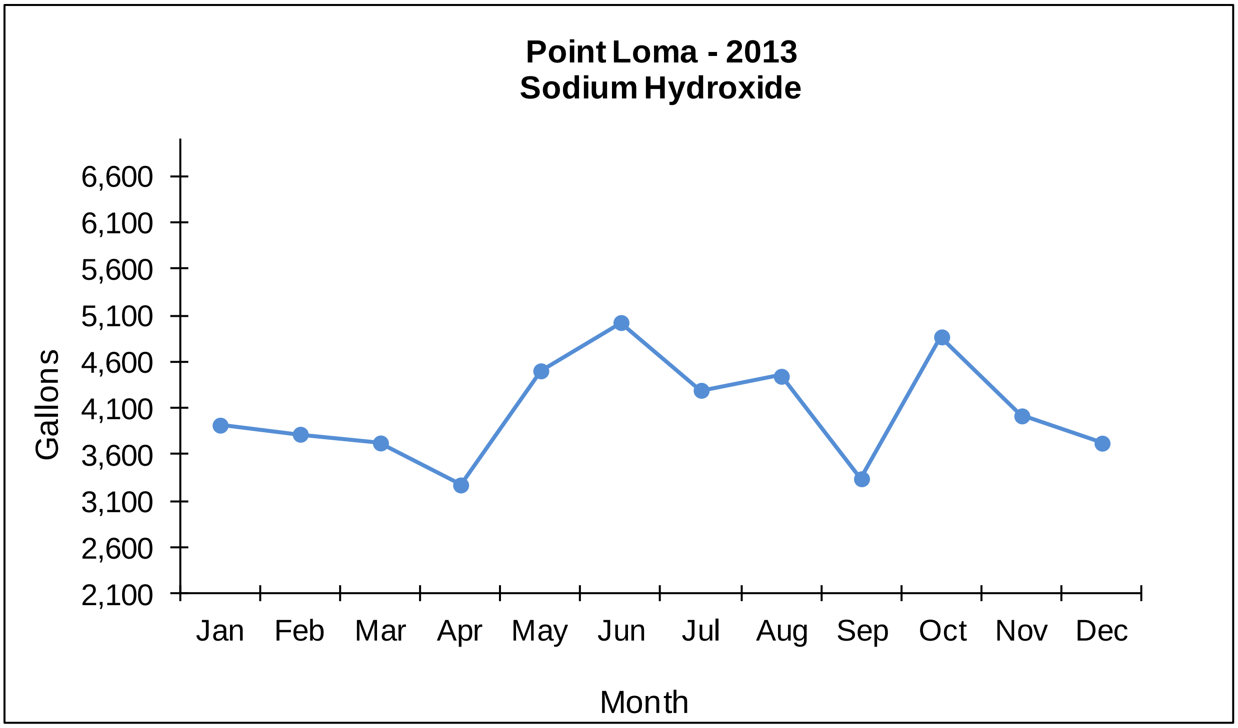
Month	GAS PRODUCTION (x1000 Cu. Ft.)									GAS CONSUMPTION (x1000 Cu. Ft.)			
	N-1-P	N-2-P	C-1-P	C-2-P	S-1-P	S-2-P	Dig 7	Dig 8	Total	Boilers	Burners	GUF	Total
01	14,872.0	16,509.0	15,501.0	13,521.0	15,053.0	13,334.0	3,062.0	.0	88,790.0	4,830	43,702	55,715	104,247
02	12,682.0	14,271.0	13,068.0	12,685.0	13,371.0	11,763.0	2,699.0	1,990.0	77,840.0	4,443	38,574	50,676	93,693
03	13,087.0	13,538.0	12,930.0	12,703.0	12,787.0	10,805.0	2,479.0	17,258.0	75,850.0	7,424	68,699	30,721	106,844
04	3,349.0	4,256.0	15,828.0	14,635.0	14,824.0	13,132.0	2,713.0	22,379.0	66,024.0	4,593	59,811	37,968	102,372
05	6,955.0	7,719.0	13,851.0	14,299.0	13,784.0	11,785.0	2,720.0	23,023.0	68,393.0	1,616	46,576	55,620	103,812
06	11,189.0	13,729.0	11,692.0	11,437.0	11,241.0	9,639.0	2,373.0	14,856.0	68,927.0	1,147	41,866	51,474	94,487
07	11,752.0	14,243.0	11,231.0	11,353.0	10,560.0	9,282.0	2,365.0	15,921.0	68,421.0	1,326	36,438	56,382	94,146
08	13,146.0	16,043.0	13,427.0	5,852.0	13,236.0	11,516.0	2,764.0	19,122.0	73,220.0	755	46,481	57,071	104,307
09	12,631.0	14,475.0	14,562.0	*	13,941.0	11,819.0	2,560.0	18,507.0	67,428.0	1,269	42,464	53,431	97,164
10	13,375.0	11,048.0	15,212.0	*	14,756.0	12,764.0	2,929.0	23,383.0	67,155.0	3,909	74,011	26,927	104,847
11	15,116.0	653.0	16,421.0	*	15,137.0	13,277.0	3,131.0	26,724.0	60,604.0	3,558	48,141	50,865	102,564
12	13,593.0	.0	17,750.0	*	14,744.0	14,349.0	2,986.0	30,164.0	60,436.0	3,783	45,234	55,761	104,778
avg	11,812.3	10,540.3	14,289.4	8,040.4	13,619.5	11,955.4	2,731.8	17,777.3	70,257.3	3,221	49,333	48,551	101,105
sum	141,747.0	126,484.0	171,473.0	96,485.0	163,434.0	143,465.0	32,781.0	213,327.0	843,088.0	38,653	591,997	582,611	1,213,261

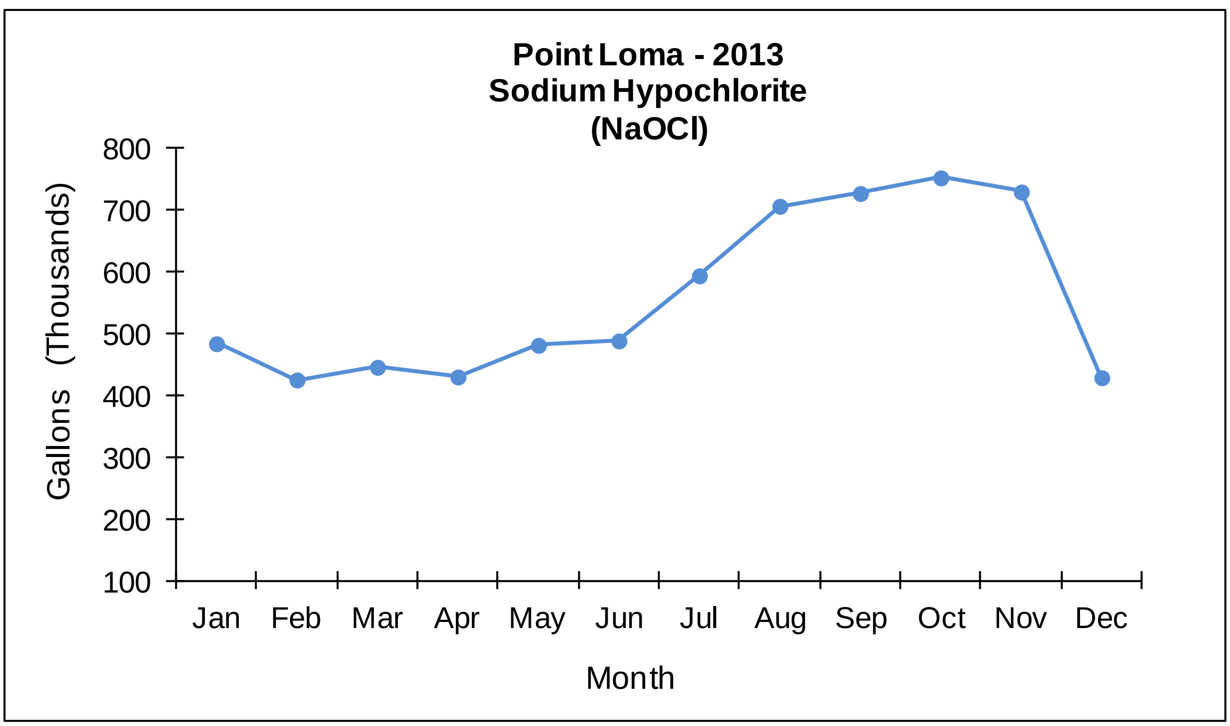
*Out of Service.

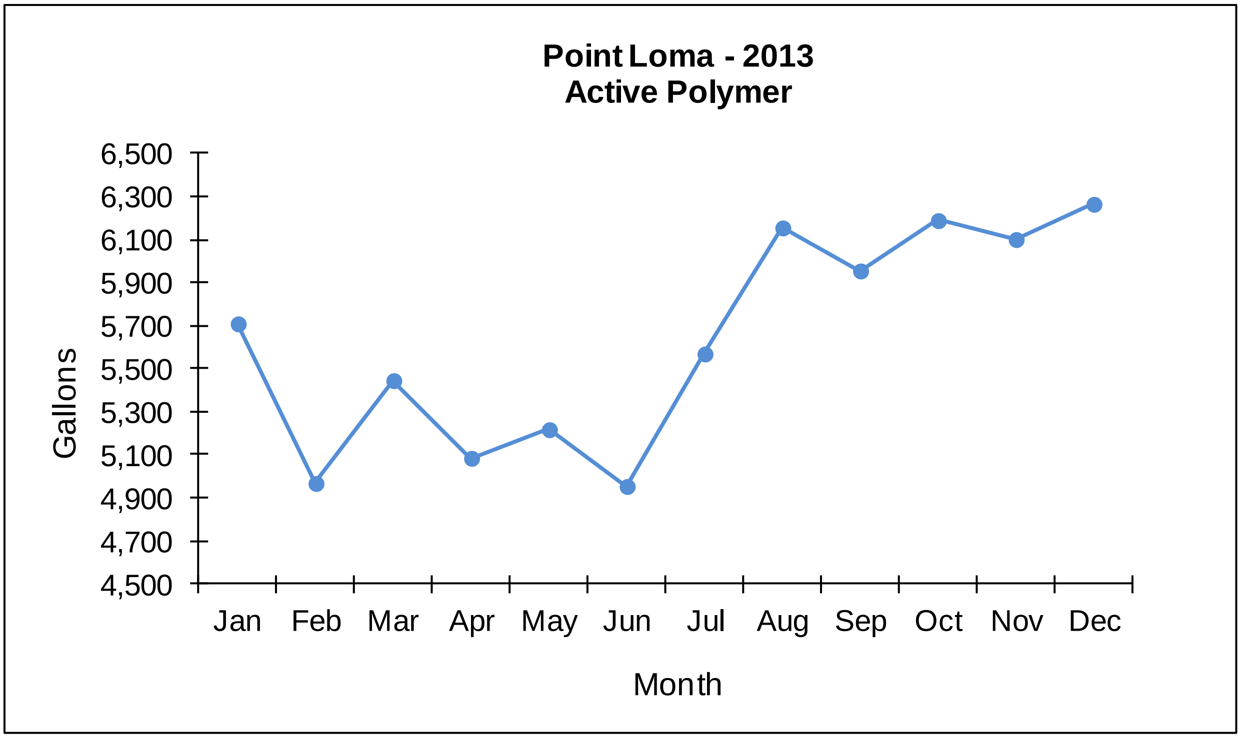
F. Graphs of Chemical Usage






Point Loma - 2013
Sodium Hydroxide
Gallons
6,600
6,100
5,600
5,100
4,600
4,100
3,600
3,100
2,600
2,100
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Point Loma - 2013
Sodium Hypochlorite
(NaOCl)
Gallons (Thousands)
800
700
600
500
400
300
200
100
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month



Point Loma - 2013
Active Polymer
6,500
6,300
6,100
5,900
5,700
5,500
5,300
5,100
4,900
4,700
4,500
Gallons
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

G. Facilities Out-of-Service Report

FACILITIES THAT WERE OUT OF SERVICE IN 2013 BY DATE

FACILITY OOS	FROM	TO	REASON
Sedimentation Basin #1	1/1	7/26	Tank rehabilitation
Sedimentation Basin #5	1/1	2/2	Tank rehabilitation
Sedimentation Basin #6	1/1	2/6	Tank rehabilitation
Sedimentation Basin #7	1/1	3/28	Tank rehabilitation
S1 Grit Basin	1/1	12/31	Tank rehabilitation
S2 Grit Basin	1/1	12/31	Tank rehabilitation
Digester 8	1/1	2/13	Digester rehabilitation
East Channel	1/1	2/13	Channel Rotation
C1 Grit Basin	1/12	1/13	Preventive/Corrective maintenance
Influent Screen #1	2/2	5/3	Preventive/Corrective maintenance
Sedimentation Basin #8	2/6	3/27	Tank rehabilitation
C1 Grit Basin	2/9	2/19	Preventive/Corrective maintenance
West Channel	2/13	3/22	Channel Rotation
C1 Grit Basin	3/1	3/5	Preventive/Corrective maintenance
East Channel	3/22	4/19	Channel Rotation
Sedimentation Basin #10	3/28	4/3	Preventive/Corrective maintenance
Sedimentation Basin #11	3/28	5/10	Tank rehabilitation
Sedimentation Basin #12	4/2	5/10	Tank rehabilitation
N2 Grit basin	4/4	4/14	Preventive/Corrective maintenance
N1 Digester	4/9	4/29	Preventive/Corrective maintenance
N2 Digester	4/10	4/29	Preventive/Corrective maintenance
Sedimentation Basin #5	4/13	4/18	Preventive/Corrective maintenance
Sedimentation Basin #7	4/17	4/20	Preventive/Corrective maintenance
C1 Grit Basin	4/19	4/20	Preventive/Corrective maintenance
West Channel	4/19	5/30	Channel Rotation
C1 Grit Basin	5/7	5/8	Preventive/Corrective maintenance
Sedimentation Basin #10	5/10	6/26	Tank rehabilitation
Sedimentation Basin #2	5/12	7/26	Tank rehabilitation
East Channel	5/30	6/20	Channel Rotation
C1 Grit Basin	6/2	6/4	Preventive/Corrective maintenance
Sedimentation Basin #4	6/5	7/12	Preventive/Corrective maintenance
Influent Screen #3	6/18	6/22	Preventive/Corrective maintenance
West Channel	6/20	7/31	Channel Rotation
N2 Grit basin	6/25	6/30	Preventive/Corrective maintenance
Sedimentation Basin #5	6/26	7/11	Preventive/Corrective maintenance
N2 Grit basin	7/1	7/3	Preventive/Corrective maintenance
Influent Screen #4	7/8	7/11	Preventive/Corrective maintenance
Sedimentation Basin #8	7/10	7/18	Preventive/Corrective maintenance
Sedimentation Basin #3	7/12	7/21	Preventive/Corrective maintenance
C2 Grit Basin	7/17	7/18	Preventive/Corrective maintenance

Sedimentation Basin #12	7/21	8/9	Preventive/Corrective maintenance
Sedimentation Basin #7	7/23	10/8	Preventive/Corrective maintenance
Sedimentation Basin #6	7/27	8/13	Preventive/Corrective maintenance
Sedimentation Basin #11	7/30	12/31	Preventive/Corrective maintenance
East Channel	7/31	9/18	Channel Rotation
Influent Screen #3	8/2	8/5	Preventive/Corrective maintenance
Sedimentation Basin #9	8/6	6/21	Tank rehabilitation
Sedimentation Basin #5	8/10	8/20	Preventive/Corrective maintenance
Sedimentation Basin #10	8/14	8/18	Preventive/Corrective maintenance
C2 Digester	8/15	12/31	Digester cleaning
Sedimentation Basin #3	8/18	9/25	Tank rehabilitation
C1 Grit Basin	8/23	8/24	Preventive/Corrective maintenance
Sedimentation Basin #4	8/26	9/25	Tank rehabilitation
C2 Grit Basin	8/27	8/28	Preventive/Corrective maintenance
C1 Grit Basin	9/3	9/4	Preventive/Corrective maintenance
Influent Screen #3	9/16	9/25	Preventive/Corrective maintenance
West Channel	9/18	11/7	Channel Rotation
C1 Grit Basin	9/20	9/21	Preventive/Corrective maintenance
Influent Screen #2	9/23	9/26	Preventive/Corrective maintenance
Sedimentation Basin #9	9/26	12/31	Preventive/Corrective maintenance
Sedimentation Basin #8	10/9	12/31	Preventive/Corrective maintenance
N2 Digester	10/22	12/31	Digester cleaning
East Channel	11/7	12/31	Channel Rotation
Influent Screen #3	11/21	12/24	Preventive/Corrective maintenance

FACILITIES THAT WERE OUT OF SERVICE IN 2013

GRIT CHAMBERS

N1	
N2	4/4-4/14; 7/1-7/3
C1	1/12-1/13; 2/9-2/19; 3/1-3/5; 4/19-4/20; 5/7-5/8; 6/2-6/4; 9/3-9/4; 9/20-9/21; 11/23-12/24;
C2	8/27-8/28
S1	1/1-12/31
S2	1/1-12/31

CHANNELS

EAST	1/1-2/13; 3/22-4/19; 5/30-6/20; 7/31-9/18;
WEST	2/13-3/22; 4/19-5/30; 6/20-7/31; 9/18-11/7

BASINS

1	1/1-7/26
2	5/12-7/26
3	7/12-7/21; 8/18-9/25
4	6/5-7/12; 8/18-9/25
5	1/1-2/2; 4/13-4/18; 6/26-7/11; 8/10-8/20
6	1/1-2/6; 7/27-8/13
7	1/1-3/28; 4/17-4/20; 7/23-10/8; 12/5-12/11
8	2/6-3/27; 7/10-7/18; 10/9-12/31
9	2/6-6/21; 9/26-12/31
10	3/28-4/3; 5/10-6/26; 8/14-8/18
11	3/28-5/10; 7/30-12/31
12	4/2-5/10; 7/21-8/9

NEOC	
SEOC	8/15
INFLUENT SCREEN #1	2/2-5/3
INFLUENT SCREEN #2	9/23-9/26
INFLUENT SCREEN #3	6/18-6/22; 8/2-8/5; 9/16-9/25; 11/21-12/24
INFLUENT SCREEN #4	7/8-7/11
INFLUENT SCREEN #5	

DIGESTERS

N1P	4/9-4/29
N2P	4/10-4/29; 10/22-12/31
C1P	
C2P	8/15-12/31
S1P	
S2P	
Dig 7	
Dig 8	1/1-2/13

FACILITIES THAT WERE OUT OF SERVICE IN 2013

Pump Station 2 Shutdowns

Date	**Description**
1/18/13	Heat Exchanger Repair
2/15/13	Heat Exchanger Repair
3/8/13	Traveling Screens Quarterly PMs
6/7/13	Pt. Loma MCCs Cleaning
6/14/13	Traveling Screens Quarterly PMs
6/18/13 - 6/20/13	Pt. Loma MCCs Cleaning
7/9/13 - 7/10/13	Pt. Loma MCCs Cleaning
7/23/13 - 7/24/13	Pt. Loma MCCs Cleaning
8/8/13	Pt. Loma Influent Meter Calibration
8/15/13	Pt. Loma Influent Meter Calibration
8/20/13 - 8/21/13	Pt. Loma MCCs Cleaning
8/27/13 - 8/30/13	Wetwell Cleaning
9/2/13 - 9/6/13	Wetwell Cleaning
9/4/13 - 9/5/13	Pt. Loma MCCs Cleaning
9/10/13 - 9/11/13	Wetwell Cleaning
9/12/13	Heat Exchanger Repair

H. Grit and Screenings

The following are reports of the analyses of grit samples taken from the Pt. Loma WWTP headworks (grit removal chambers) in 2013. Reports include Title 22 analyses and Total Solids. Title 22 sampling and analysis of PLR grit occurs on a Semi-Annual basis. Samples from the grit bins are taken daily for 7 consecutive days and composited together to form the Semi-Annual sample. Although everywhere else in this report PLR refers to Point Loma WWTP raw Influent sewage, in this section, it refers to the grit removed from the grit chambers at the headworks building at the influent end of the plant.

Point Loma Wastewater Treatment Plant
Grit and Screenings 2013- Monthly Total Solids Averages (% WT)

Grit		Headworks Screenings		Sludge Screenings	
JAN	47.3	JAN	40.9	JAN	35.7
FEB	46.1	FEB	46.8	FEB	35.4
MAR	46.7	MAR	44.9	MAR	36.6
APR	52.0	APR	44.0	APR	37.2
MAY	55.7	MAY	48.0	MAY	36.1
JUN	55.5	JUN	43.0	JUN	37.3
JUL	51.0	JUL	45.9	JUL	37.1
AUG	52.1	AUG	45.8	AUG	36.6
SEP	49.3	SEP	43.7	SEP	36.8
OCT	48.7	OCT	43.5	OCT	39.1
NOV	48.5	NOV	43.6	NOV	40.1
DEC	50.6	DEC	46.3	DEC	40.7
AVG	**50.3**	**AVG**	**44.7**	**AVG**	**37.4**

Point Loma Wastewater Treatment Plant

2013 Grit Total Solid (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	47.3	40.9	58.4
FEB	46.1	40.3	52.9
MAR	46.7	37.7	63.1
APR	52.0	45.0	67.7
MAY	55.7	47.4	66.6
JUN	55.5	35.0	71.8
JUL	51.0	41.0	59.5
AUG	52.1	37.1	64.3
SEP	49.3	41.3	67.9
OCT	48.7	42.8	56.0
NOV	48.5	38.8	57.1
DEC	50.6	40.1	67.9

2013 Sludge Screenings Total Solids (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	35.7	31.1	47.5
FEB	35.4	31.2	40.2
MAR	36.6	31.6	63.5
APR	37.2	34.1	41.4
MAY	36.1	32.6	40.1
JUN	37.3	34.1	42.4
JUL	37.1	29.0	43.4
AUG	36.6	33.2	42.4
SEP	36.8	31.7	41.7
OCT	39.1	34.4	43.2
NOV	40.1	36.4	47.1
DEC	40.7	35.4	47.1

2013 Headworks Screenings Total Solids (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	40.9	24.3	54.9
FEB	46.8	41.4	52.6
MAR	44.9	35.9	58.7
APR	44.0	35.9	53.2
MAY	48.0	36.7	55.7
JUN	43.0	31.5	66.3
JUL	45.9	37.3	52.4
AUG	45.8	36.9	53.0
SEP	43.7	34.7	57.0
OCT	43.5	37.8	51.1
NOV	43.6	31.5	61.9
DEC	46.3	39.3	55.4

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
GRIT
From: 01-JUN-2013 to 30-JUN-2013

Source: PLR
Sample ID: P664130
Sample Date: 03-JUN-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	1.21	.68	500	*	5.00	41	
Barium	.05	MG/KG	80.8	45.2	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	.2	.11	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	10.5	5.88	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	2.6	1.5	8000	*	80.00		
Copper	.4	MG/KG	553	309.7	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	23	12.9	1000	*	5.00	300	350
Mercury	.2	MG/KG	ND	ND	20	*	.20	17	
Molybdenum	.1	MG/KG	3.4	1.90	3500	*	350.00		
Nickel	.3	MG/KG	9.6	5.376	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	.67	.375	100	*	1.00	100	
Silver	.07	MG/KG	.53	.297	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	11.5	6.44	2400	*	24.00		
Zinc	.5	MG/KG	502	281	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Total Solids		WT%	56						
Total Volatile Solids		WT%	39.6						
pH		PH	6.44		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	0	0	1.0	*	.10		
2,4-D	.07	MG/KG	ND	ND	100	*	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol	1.17	MG/KG	ND	ND	17	*	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP	.03	MG/KG	ND	ND	10	*	1.00		

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
GRIT
From: 01-OCT-2013 to 31-OCT-2013

Source: PLR
Sample ID: P682451
Sample Date: 31-OCT-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	1.19	.56	500	*	15.00		
Arsenic	.68	MG/KG	3.76	1.79	500	*	5.00	41	
Barium	.05	MG/KG	76.8	36.5	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	.3	.14	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	19.7	9.36	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	1.4	.67	8000	*	80.00		
Copper	.4	MG/KG	246	116.9	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	7.1	3.4	1000	*	5.00	300	350
Mercury	.2	MG/KG	ND	ND	20	*	.20	17	
Molybdenum	.1	MG/KG	4.0	1.9	3500	*	350.00		
Nickel	.3	MG/KG	14.4	6.84	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	1.37	0.65	100	*	1.00	100	
Silver	.07	MG/KG	.39	.185	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	6.3	3.007	2400	*	24.00		
Zinc	.5	MG/KG	875	415.6	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Total Solids		WT%	47.5						
Total Volatile Solids		WT%	53.9						
pH		PH	6.65		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.001	.0005	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.0011	.001	1.0	*	.10		
2,4-D	.07	MG/KG	ND	ND	100	*	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol	1.17	MG/KG	ND	ND	17	*	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP	.03	MG/KG	ND	ND	10	*	1.00		

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL GRIT COMPOSITES
Inorganics and Organics

2013 Annual

Source:			GRIT COMP	GRIT COMP
Date:			03-JUN-2013	31-OCT-2013
Analyte:	MDL	Units:	P664130	P682451
Aluminum	4	MG/KG	4990	1600
Antimony	.5	MG/KG	ND	1.2
Arsenic	.68	MG/KG	1.21	3.76
Barium	.05	MG/KG	80.8	76.8
Beryllium	.02	MG/KG	ND	ND
Cadmium	.1	MG/KG	0.2	0.3
Chromium	.3	MG/KG	10.5	19.7
Cobalt	.2	MG/KG	2.6	1.4
Copper	.4	MG/KG	553	246
Iron	20	MG/KG	27000	12600
Lead	2	MG/KG	23	7
Manganese	.2	MG/KG	146	80
Mercury	.2	MG/KG	ND	ND
Molybdenum	.1	MG/KG	3.4	4.0
Nickel	.3	MG/KG	10	14
Selenium	.47	MG/KG	0.67	1.37
Silver	.07	MG/KG	0.5	0.4
Thallium	1	MG/KG	ND	ND
Vanadium	.2	MG/KG	11.5	6.3
Zinc	.5	MG/KG	502	875
pH		PH	6.44	6.65
Total Solids		WT%	56.0	47.5
Total Volatile Solids		WT%	39.6	53.9
Aldrin	10000	MG/KG	ND	ND
2,4-Dichlorophenoxyacetic acid	.0696	MG/KG	ND	ND
Dieldrin	2300	MG/KG	ND	ND
Endrin	2500	MG/KG	ND	ND
Heptachlor	1200	MG/KG	ND	ND
BHC, Gamma isomer	1100	MG/KG	ND	ND
Methoxychlor	800	MG/KG	ND	ND
Pentachlorophenol	1170	MG/KG	ND	ND
Toxaphene	183000	MG/KG	ND	ND
Trichloroethene	2.6	MG/KG	ND	ND
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND

NA= Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT- Chlorinated Pesticide Analysis

2013 Annual

Grit

Source			GRIT COMP	GRIT COMP
Date			03-JUN-2013	31-OCT-2013
Analyte	MDL	Units	P664130	P682451
Aldrin	10000	NG/KG	ND	ND
Dieldrin	2300	NG/KG	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND
o,p-DDD	800	NG/KG	ND	ND
o,p-DDE	1100	NG/KG	ND	ND
o,p-DDT	800	NG/KG	ND	ND
p,p-DDD	500	NG/KG	525	ND
p,p-DDE	1000	NG/KG	ND	1140
p,p-DDT	2200	NG/KG	ND	ND
Heptachlor	1200	NG/KG	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND
Gamma (trans) Chlordane	800	NG/KG	ND	988
Alpha Chlordene		NG/KG	NA	NA
Gamma Chlordene		NG/KG	NA	NA
Oxychlordane	1600	NG/KG	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND
Endrin	2500	NG/KG	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND
Toxaphene	183000	NG/KG	ND	ND
Mirex	900	NG/KG	ND	ND
Methoxychlor	800	NG/KG	ND	ND
PCB 1016	5600	NG/KG	ND	ND
PCB 1221	20000	NG/KG	ND	ND
PCB 1232	3000	NG/KG	ND	ND
PCB 1242	7000	NG/KG	ND	ND
PCB 1248	9300	NG/KG	ND	ND
PCB 1254	4200	NG/KG	ND	ND
PCB 1260	3000	NG/KG	ND	ND
PCB 1262	5000	NG/KG	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0
DDT and derivatives	2200	NG/KG	525	1140
Chlordane + related cmpds.	3200	NG/KG	0	988
Polychlorinated biphenyls	20000	NG/KG	0	0
Chlorinated Hydrocarbons	183000	NG/KG	525	2128

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT
ANALYSIS-ACID EXTRACTABLE COMPOUNDS

2013 Annual

Source			GRIT COMP	GRIT COMP
Date			03-JUN-2013	31-OCT-2013
Analyte	MDL	Units	P664130	P682451
2-Chlorophenol	1310	UG/KG	ND	ND
4-Chloro-3-methylphenol	1900	UG/KG	ND	ND
2,4-Dichlorophenol	914	UG/KG	ND	ND
2,4-Dimethylphenol	1070	UG/KG	ND	ND
2,4-Dinitrophenol		UG/KG	ND	ND
2-Methyl-4,6-dinitrophenol		UG/KG	ND	ND
2-Nitrophenol	1600	UG/KG	ND	ND
4-Nitrophenol		UG/KG	ND	ND
Pentachlorophenol	1170	UG/KG	ND	ND
Phenol	1440	UG/KG	ND	ND
2,4,6-Trichlorophenol	1600	UG/KG	ND	ND
Total Chlorinated Phenols	1900	UG/KG	0.0	0.0
Total Non-Chlorinated Phenols	1600	UG/KG	0.0	0.0
Phenols	1900	UG/KG	0.0	0.0

nd= not detected, NA= not analyzed NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT - Priority Pollutants Base/Neutral Compounds

2013 Annual

Source:			GRIT COMP	GRIT COMP
Date:			03-JUN-2013	31-OCT-2013
Sample:	MDL	Units	P664130	P682451
Acenaphthene	863	UG/KG	ND	ND
Acenaphthylene	584	UG/KG	ND	ND
Anthracene	986	UG/KG	ND	ND
Benzidine		UG/KG	ND	ND
Benzo[a]anthracene	1100	UG/KG	ND	ND
3,4-Benzo(b)fluoranthene	1127	UG/KG	ND	ND
Benzo[k]fluoranthene	1930	UG/KG	ND	ND
Benzo[a]pyrene	741	UG/KG	ND	<741
Benzo[g,h,i]perylene	301	UG/KG	ND	<301
4-Bromophenyl phenyl ether	1030	UG/KG	ND	ND
Bis-(2-chloroethoxy) methane	1630	UG/KG	ND	ND
Bis-(2-chloroethyl) ether	1420	UG/KG	ND	ND
Bis-(2-chloroisopropyl) ether	1090	UG/KG	ND	ND
4-Chlorophenyl phenyl ether	362	UG/KG	ND	ND
2-Chloronaphthalene		UG/KG	ND	ND
Chrysene	352	UG/KG	<352	555
Dibenzo(a,h)anthracene	616	UG/KG	ND	ND
Butyl benzyl phthalate	2210	UG/KG	ND	ND
Di-n-butyl phthalate	1450	UG/KG	ND	ND
Bis-(2-ethylhexyl) phthalate	3960	UG/KG	<3960	ND
Diethyl phthalate	1400	UG/KG	ND	ND
Dimethyl phthalate	356	UG/KG	ND	ND
Di-n-octyl phthalate	3460	UG/KG	ND	ND
3,3-Dichlorobenzidine	2030	UG/KG	ND	ND
2,4-Dinitrotoluene	1030	UG/KG	ND	ND
2,6-Dinitrotoluene	1890	UG/KG	ND	ND
1,2-Diphenylhydrazine	1590	UG/KG	ND	ND
Fluoranthene	216	UG/KG	494	887
Fluorene	2520	UG/KG	ND	ND
Hexachlorobenzene	813	UG/KG	ND	ND
Hexachlorobutadiene	940	UG/KG	ND	ND
Hexachlorocyclopentadiene	1890	UG/KG	ND	ND
Hexachloroethane	382	UG/KG	ND	ND
Indeno(1,2,3-CD)pyrene	953	UG/KG	ND	ND
Isophorone	1820	UG/KG	ND	ND
Naphthalene	2150	UG/KG	ND	ND
Nitrobenzene	2800	UG/KG	ND	ND
N-nitrosodimethylamine		UG/KG	ND	ND
N-nitrosodi-n-propylamine	1360	UG/KG	ND	ND
N-nitrosodiphenylamine	1330	UG/KG	ND	ND
Phenanthrene	1040	UG/KG	ND	ND
Pyrene	1150	UG/KG	ND	<1150
1,2,4-Trichlorobenzene	979	UG/KG	ND	ND
1,3-Dichlorobenzene	733	UG/KG	ND	ND
1,2-Dichlorobenzene	342	UG/KG	ND	ND
1,4-Dichlorobenzene	1270	UG/KG	ND	ND
Polynuc. Aromatic Hydrocarbons	2520	UG/KG	0	555
Total Dichlorobenzenes	733	UG/KG	0	0
Base/Neutral Compounds	3960	UG/KG	494	1442

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT - Priority Pollutants Purgeable Compounds

2013 ANNUAL

Source			GRIT COMP	GRIT COMP
Date			03-JUN-2013	31-OCT-2013
Analyte	MDL	Units	P664130	P682451
Acrolein	6.4	UG/KG	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND
Benzene	2.1	UG/KG	ND	DNQ4.8
Bromodichloromethane	2.2	UG/KG	ND	ND
Bromoform	2.4	UG/KG	ND	ND
Bromomethane	6.9	UG/KG	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND
Chlorobenzene	1	UG/KG	ND	ND
Chloroethane	3.6	UG/KG	ND	ND
Chloroform	2.3	UG/KG	ND	11.6
Chloromethane	3.4	UG/KG	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	DNQ8.7
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	328	306
1,1-Dichloroethane	1.9	UG/KG	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND
Ethylbenzene	1.4	UG/KG	DNQ5.9	15.8
Methylene chloride	3.5	UG/KG	ND	19.6
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	DNQ8.5
Toluene	1.2	UG/KG	186	251
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND
Halomethane Purgeable Cmpnds	6.9	UG/KG	0.0	0.0
Total Dichlorobenzenes	1.8	UG/KG	0.0	0.0
Purgeable Compounds	6.9	UG/KG	514	604

Additional volatile organic compounds determined;

Acetone	31.4	UG/KG	5600	7740
Allyl chloride	3.6	UG/KG	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND
2-Butanone	36.3	UG/KG	1050	901
Carbon disulfide	4.7	UG/KG	53.4	97.7
Chloroprene	3.1	UG/KG	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	36.9
Methyl Iodide	3.8	UG/KG	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND
ortho-xylene	1.9	UG/KG	DNQ8.0	19.0
Styrene	1.7	UG/KG	13.4	19.0
1,2,4-Trichlorobenzene	979	UG/KG	ND	ND
meta,para xylenes	4.2	UG/KG	19.1	41.5
Trichlorofluoromethane	2.2	UG/KG	ND	ND
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	ND

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT - Herbicides

2013 ANNUAL

Source			GRIT COMP	GRIT COMP
Date			03-JUN-2013	31-OCT-2013
Analyte	MDL	Units	P664130	P682451
2,4-Dichlorophenoxyacetic acid	.0696	MG/KG	ND	ND
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND

ND=not detected
NS=not sampled
NA=not analyzed

I. Raw Sludge Data Summary

2013 POINT LOMA WASTEWATER TREATMENT PLANT ANNUAL REPORT

Raw Sludge
Monthly average of daily average

Month	pH	%Total Solids	%Total Volatile Solids
January	5.78	4.0	80.1
February	5.80	4.0	80.0
March	5.70	4.1	80.6
April	5.51	4.4	79.7
May	5.55	4.3	79.3
June	5.37	4.4	78.3
July	5.30	3.8	76.8
August	5.62	3.9	79.2
September	5.59	4.5	79.2
October	5.68	4.0	79.1
November	5.72	4.0	78.0
December	5.64	4.1	79.3
Averages	**5.61**	**4.1**	**79.3**

J. Digester and Digested Sludge Data Summary

Point Loma Wastewater Treatment Plant Annual Report
Digesters
Year: 2013

N1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2013	7.09	2.1	61.7	2370	83	61.3	38.6
FEBRUARY -2013	7.04	2.1	61.5	2460	86	61.3	38.6
MARCH -2013	7.08	2.2	62.4	2500	97	61.9	37.9
APRIL -2013	7.16	2.2	60.2	2770	117	63.0	36.8
MAY -2013	7.20	2.1	60.6	2760	123	61.9	38.0
JUNE -2013	7.10	2.5	62.0	2260	78	62.0	37.9
JULY -2013	7.06	2.5	60.5	2030	76	62.6	37.2
AUGUST -2013	7.01	2.3	61.4	1790	64	61.7	38.2
SEPTEMBER-2013	6.99	2.4	61.8	1730	49	61.3	38.5
OCTOBER -2013	7.00	2.3	60.9	1780	54	61.7	38.1
NOVEMBER -2013	7.02	2.4	60.6	1780	68	61.3	38.5
DECEMBER -2013	7.02	2.3	60.5	2080	76	60.0	39.8
Average:	7.06	2.3	61.2	2193	81	61.7	38.2

N2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2013	7.08	2.0	60.8	2440	81	61.4	38.4
FEBRUARY -2013	7.06	2.0	60.8	2510	83	61.1	38.8
MARCH -2013	7.09	2.0	61.2	2630	98	62.0	37.9
APRIL -2013	7.15	1.9	57.4	2890	116	62.8	37.1
MAY -2013	7.24	1.9	59.2	2950	120	61.3	38.5
JUNE -2013	7.14	2.4	60.9	2400	77	62.1	37.7
JULY -2013	7.08	2.4	60.3	2130	77	62.5	37.3
AUGUST -2013	7.03	2.3	61.2	1910	66	61.6	38.1
SEPTEMBER-2013	7.01	2.3	61.3	1840	50	61.4	38.3
OCTOBER -2013	7.07	2.1	59.5	1970	57	62.6	37.1
NOVEMBER -2013	7.22	1.7	54.2	2510	80	48.7	26.0
DECEMBER -2013	*	*	*	*	*	*	*
Average:	7.11	2.1	59.7	2380	82	60.7	36.8

*Not in service.

C1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013	7.08	2.2	60.4	2420	82	61.6	38.3	*
FEBRUARY -2013	7.05	2.2	60.1	2580	87	60.9	38.9	*
MARCH -2013	7.11	2.1	60.9	2670	102	61.8	38.0	*
APRIL -2013	7.09	2.3	61.0	2570	103	61.6	38.3	*
MAY -2013	7.13	2.4	60.7	2450	103	61.6	38.2	*
JUNE -2013	7.16	2.4	59.7	2380	77	62.0	37.9	*
JULY -2013	7.12	2.4	59.0	2280	80	62.7	37.1	*
AUGUST -2013	7.03	2.3	60.1	1970	67	61.7	38.2	*
SEPTEMBER-2013	7.00	2.3	60.8	1820	49	61.6	38.1	*
OCTOBER -2013	7.01	2.3	60.3	1820	57	61.8	37.9	*
NOVEMBER -2013	7.05	2.3	59.9	1900	71	61.4	38.4	*
DECEMBER -2013	7.02	2.3	60.1	2110	79	60.2	39.6	*
Average:	7.07	2.3	60.3	2248	80	61.6	38.2	*

Point Loma Wastewater Treatment Plant Annual Report
Digesters
Year: 2013

C2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2013	7.08	2.1	61.0	2380	81	61.4	38.4
FEBRUARY -2013	7.04	2.2	60.6	2500	86	60.9	39.0
MARCH -2013	7.07	2.1	61.4	2590	100	61.9	37.9
APRIL -2013	7.08	2.3	61.3	2530	105	61.5	38.3
MAY -2013	7.11	2.4	62.1	2360	102	61.4	38.5
JUNE -2013	7.14	2.5	60.2	2320	75	62.0	37.9
JULY -2013	7.08	2.4	59.7	2180	75	62.7	37.2
AUGUST -2013	7.07	2.3	60.4	2240	78	61.9	38.0
SEPTEMBER-2013	7.18	2.4	56.8	2760	82	62.6	37.2
October -2013	*	*	*	*	*	*	*
November -2013	*	*	*	*	*	*	*
DECEMBER -2013	*	*	*	*	*	*	*
Average:	7.09	2.3	60.4	2429	87	61.8	38.0

*Not in service.

S1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013	7.11	2.1	61.1	2430	81	61.3	38.6	*
FEBRUARY -2013	7.08	2.1	62.6	2540	88	60.9	39.0	*
MARCH -2013	7.09	2.0	61.3	2670	108	61.9	37.9	*
APRIL -2013	7.12	2.3	61.2	2620	105	61.4	38.5	*
MAY -2013	7.13	2.4	61.0	2500	105	61.8	38.1	*
JUNE -2013	7.17	2.4	60.2	2340	75	62.0	37.9	*
JULY -2013	7.11	2.4	59.4	2330	77	62.7	37.1	*
AUGUST -2013	7.06	2.2	60.5	1990	66	61.7	38.1	*
SEPTEMBER-2013	7.01	2.4	61.7	1800	51	61.5	38.1	*
OCTOBER -2013	7.03	2.3	60.6	1870	56	61.8	38.0	*
NOVEMBER -2013	7.05	2.5	59.2	1940	71	61.3	38.4	*
DECEMBER -2013	6.99	2.4	59.8	2240	82	60.1	39.7	*
Average:	7.08	2.3	60.7	2273	80	61.5	38.3	*

S2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013	7.12	2.1	61.4	2420	88	61.4	38.5	29
FEBRUARY -2013	7.08	2.2	61.3	2550	90	60.8	39.1	29
MARCH -2013	7.09	2.2	61.5	2640	103	61.9	38.0	28
APRIL -2013	7.12	2.3	61.6	2550	104	61.5	38.4	31
MAY -2013	7.13	2.4	59.9	2420	104	56.4	39.6	33
JUNE -2013	7.15	2.5	60.4	2340	73	61.9	37.9	29
JULY -2013	7.11	2.4	59.6	2210	78	62.6	37.2	31
AUGUST -2013	7.07	2.3	60.8	1920	65	61.6	38.2	32
SEPTEMBER-2013	7.00	2.3	62.2	1770	50	61.5	38.1	30
OCTOBER -2013	7.02	2.2	61.1	1800	54	61.8	37.9	33
NOVEMBER -2013	7.02	2.3	60.2	1840	69	61.5	38.2	38
DECEMBER -2013	6.99	2.4	60.0	2080	78	60.2	39.5	40
Average:	7.08	2.3	60.8	2212	80	61.1	38.4	32

Point Loma Wastewater Treatment Plant Annual Report
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DIG 7

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013	7.21	1.9	59.5	2560	88	62.4	37.5	*
FEBRUARY -2013	7.14	1.9	59.4	2670	91	61.7	38.0	*
MARCH -2013	7.14	1.8	60.0	2680	103	62.5	37.3	*
APRIL -2013	7.20	2.0	59.8	2690	109	62.5	37.3	*
MAY -2013	7.26	2.1	59.8	2640	112	62.7	37.1	*
JUNE -2013	7.26	2.2	59.0	2480	83	63.0	36.8	*
JULY -2013	7.22	2.3	58.7	2340	84	63.1	36.6	*
AUGUST -2013	7.18	2.1	59.3	2080	71	62.3	37.4	*
SEPTEMBER-2013	7.12	2.1	59.8	1990	57	62.5	37.1	*
OCTOBER -2013	7.13	2.1	59.6	1940	60	62.8	36.9	*
NOVEMBER -2013	7.10	2.1	59.3	2030	75	62.9	36.9	*
DECEMBER -2013	7.01	1.9	59.2	2040	80	63.2	36.4	*
Average:	7.16	2.0	59.5	2345	84	62.6	37.1	*

DIG 8

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
FEBRUARY -2013	7.14	1.1	56.2	1810	88	62.0	38.1	*
MARCH -2013	7.06	1.7	62.1	2150	100	61.8	37.8	*
APRIL -2013	7.15	2.1	61.3	2450	106	61.7	38.2	*
MAY -2013	7.14	2.3	61.3	2400	107	61.7	38.1	*
JUNE -2013	7.17	2.4	60.2	2350	78	62.1	37.7	*
JULY -2013	7.13	2.3	59.2	2300	80	62.8	37.0	*
AUGUST -2013	7.09	2.2	60.1	2020	68	61.7	38.1	*
SEPTEMBER-2013	7.05	2.2	61.1	1850	56	61.9	37.8	*
OCTOBER -2013	7.05	2.2	60.9	1810	57	61.9	37.7	*
NOVEMBER -2013	7.04	2.3	60.9	1810	74	61.3	38.4	*
DECEMBER -2013	6.99	2.3	61.0	1990	86	60.1	39.7	*
Average:	7.09	2.1	60.4	2085	82	61.7	38.1	*

IV. Metro Biosolids Center (MBC) Data

A. MBC Diagrams
B. Return Stream Data Summary
C. Digester and Digested Sludge Data Summary
D. Gas Production
E. Chemical Usage
F. Graphs of Chemical Usage
G. Solids Handling Annual Report
H. Results of "Title 22" Sludge Hazardous Waste Tests

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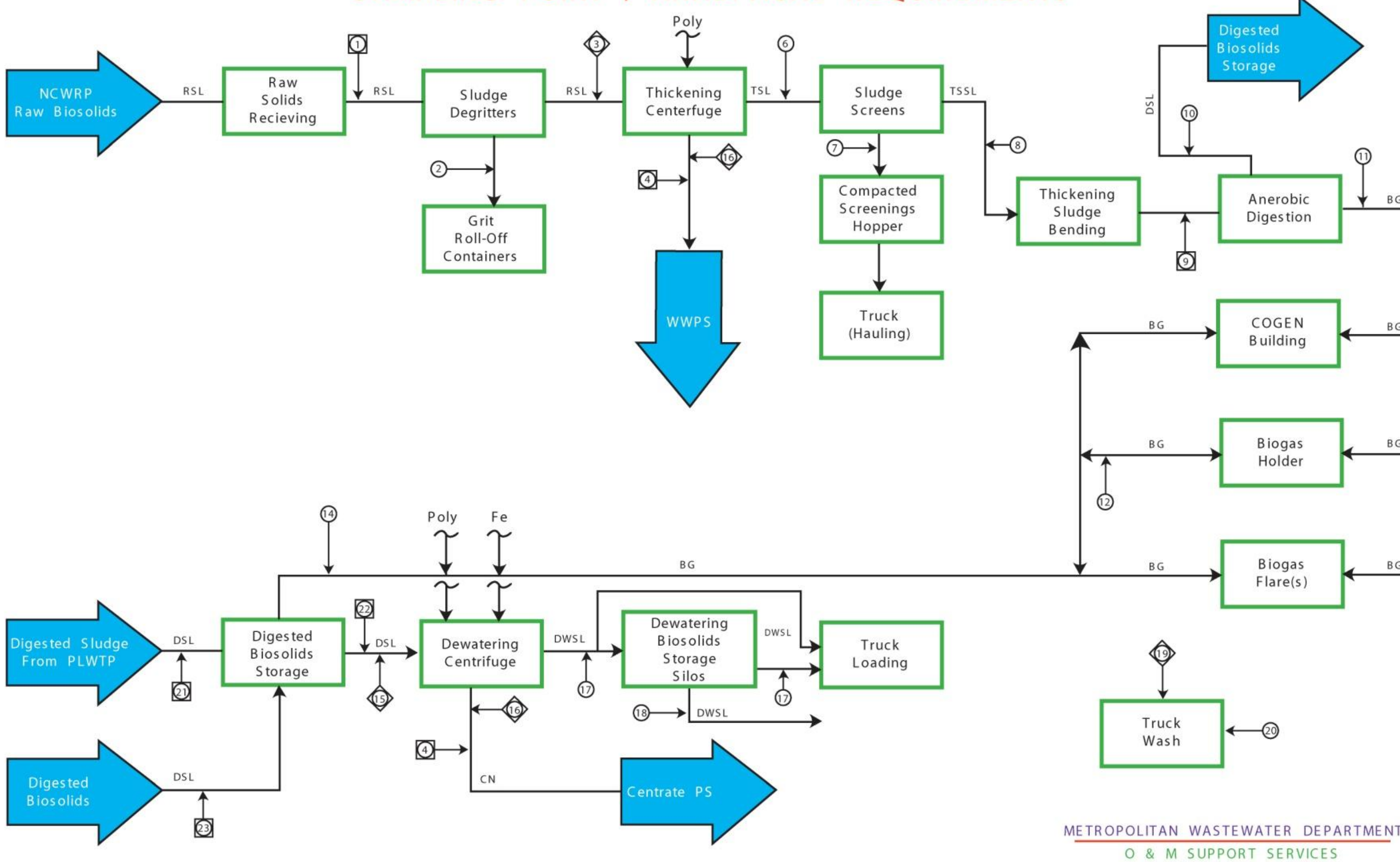
A. MBC Diagrams

METROPOLITAN BIOSOLIDS CENTER
PROCESS FLOW DIAGRAM
SAMPLING POINT / ANALYTICAL REQUIREMENTS



- ○ GRAB SAMPLER
- ▢ AUTOSAMPLER
- ◇ ANALYZER/METER

LOCATION	DESCRIPTION
1	Raw Solids Sampler (73 AU 9040): Volatile Solids, Total Solids, pH, Alkilinity
2	Grit: Volitile Solids, % Moisture
3	Thickened Sludge Feed Loop (76 DE 2140): Total Solids, Volatile
4	Centrate (Dewatering & Thickening) Sampler (76 AU 2635): Total Suspended Solids, pH, BOD_5
5	
6	Thickened Biosolids: Total Solids, Volatile Solids, pH
7	Sludge Screening: Volitile Solids, % Moisture
8	Thickened Screen Sludge: Total Sludge, Volatile Solids
9	Thickened Sludge (73 AU 9050): Total Solids, Volatile Solids, Temperature, pH, Alkalinity, Volatile Acids, Iron
10	Anaerobically Digested Sludge: % Total Solids, % Volatile Solids, Temperature, pH, Alkalinity, Volatile Acids
11	
12	Biogas from Digestion: Methane (CH_4), Carbon Dioxide (CO_2), Hydrogen Sulfide (H_2S)
13	Biogas to Biogas Holder: Methane (CH_4), Carbon Dioxide (CO_2), H_2S
14	Biogas from Digestion: Methane (CH_4), Carbon Dioxide (CO_2)
15	Dewatering Centrifuge Feed Loop (76 DE 2502): Total Solids
16	Centrate (Dewatering & Thickening) Analyzers: Total Suspended Solids
17	Dewatered Biosolids: Total Solids, Volatile Solids, pH, TKN, PCB, Trace Metals
18	Dewatered Biosolids Cake: Total Solids, Volatile Solids, pH, TKN, PCB, Trace Metals
19	Truck Wash: (87 AIT 9011): CL_2 Residule
20	Truck Wash: BOD_5, Coliform
21	Digested Sludge from PLWTP (80 AU 9009): Total Solids, Volatile Solids, pH, Iron
22	Digested Sludge from DBST (80 AU 2115): Total Solids, Volatile Solids, pH
23	Digester Samplers: Digester#1 80 AU 9006, Digester#2 9007, Digester#3 9008 Total Solids, Volatile Solids, pH, Alkalinity, Iron

Revision Date: 02/11/04

B. Return Stream Data Summary

This section presents the results of analyses of the Metro Biosolids Center (MBC) return stream (MBC_COMBCN) for 2013. This return stream is continuously sampled by a flow proportioned, autosampler connected to the return stream lines at MBC. Each 24-hour[13] composite is collected and analyzed for pH, BOD, TSS, TVSS, TS, and TVS daily. An aliquot is preserved and added to a monthly (calendar month) composite for analysis of trace metals.

The data is presented in tables of monthly averages and graphs of the monthly averages of select parameters. Tables of daily values for select parameters (such as TSS, Flow, etc.) along with graphs are also provided.

13 approximately midnight to midnight each day.

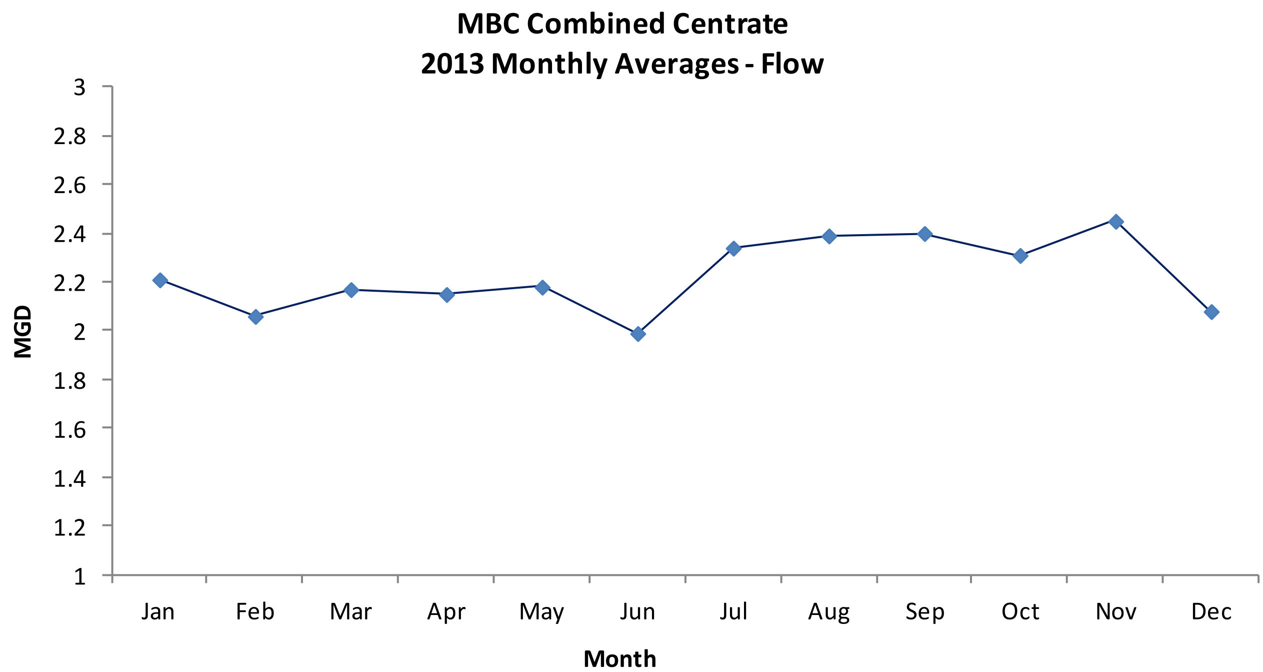
Metro Biosolids Center

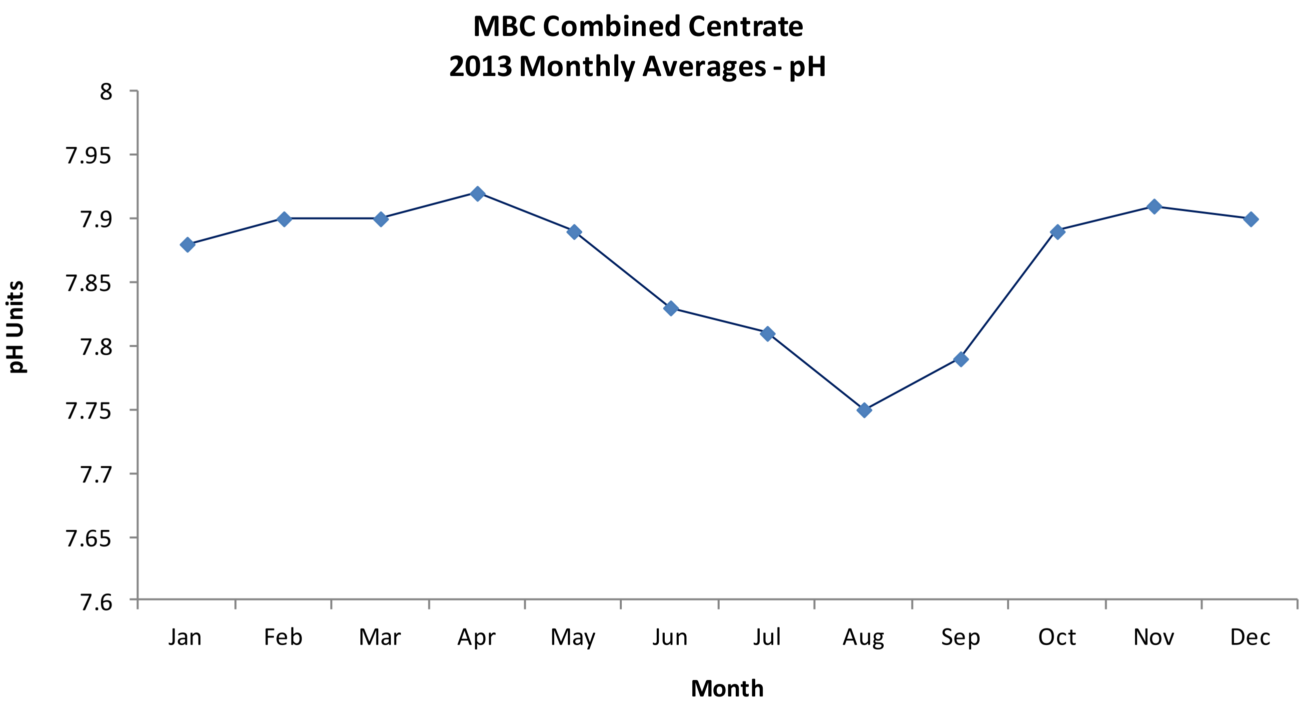
Sludge Project – Annual Summary

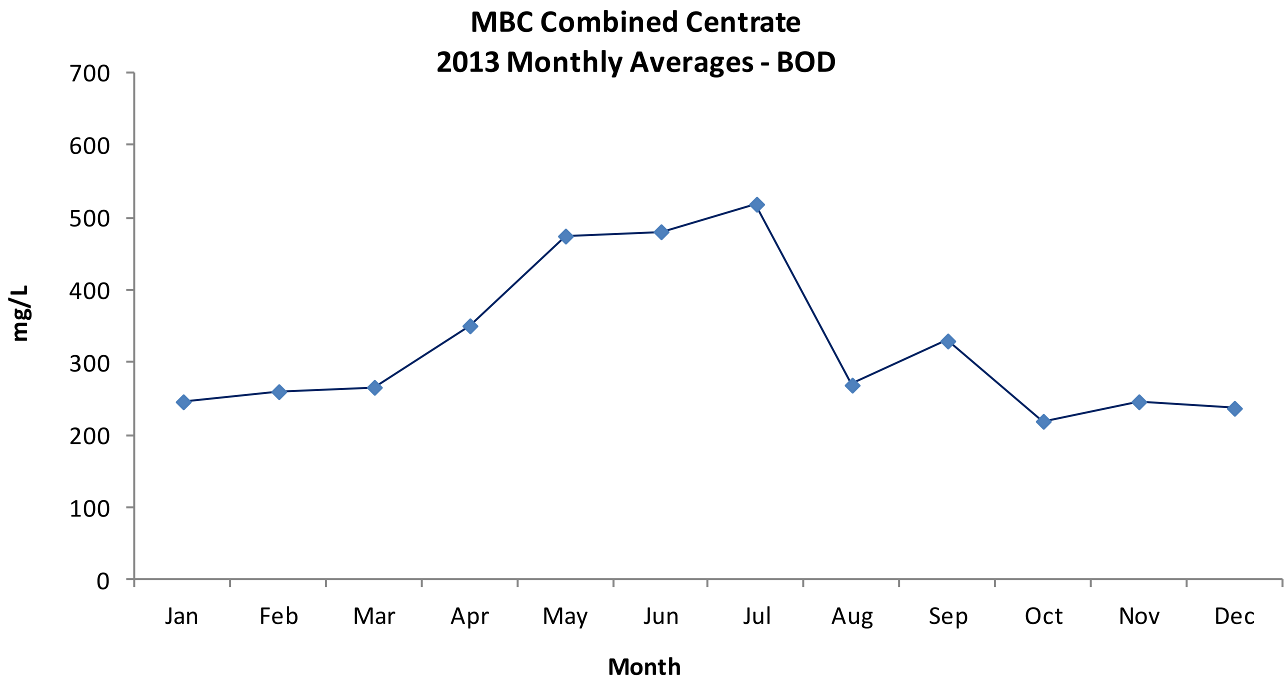
Combined Sludge Concentrate

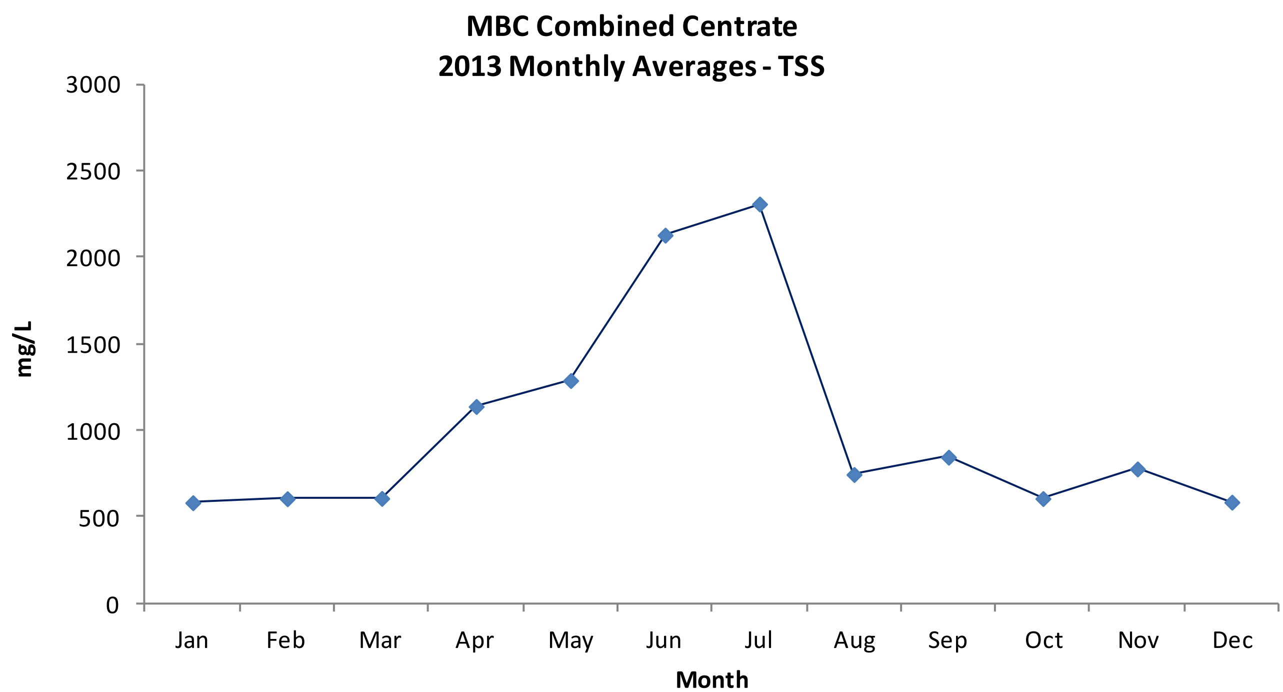
Annual 2013

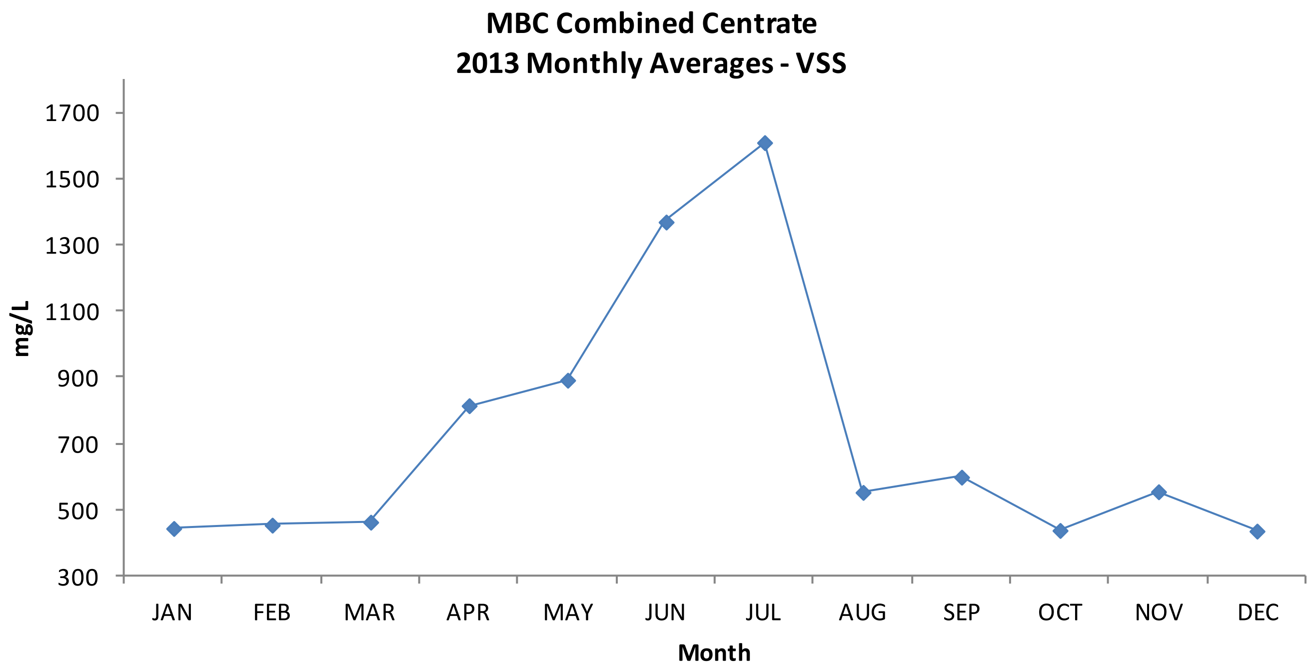
Source	FLOW	PH	BOD	TSS	VSS	TS	TVS	TSS Mass Emmissions
Units	MGD	pH Units	mg/L	mg/L	mg/L	Wt%	Wt%	(lbs/Day)
JANUARY -2013	2.21	7.88	246	584	444	0.29	40	10764
FEBRUARY -2013	2.06	7.90	260	607	454	0.29	42	10429
MARCH -2013	2.17	7.90	266	609	463	0.30	45	11022
APRIL -2013	2.15	7.92	351	1140	815	0.35	48	20441
MAY -2013	2.18	7.89	>475	1290	892	0.43	52	23454
JUNE -2013	1.99	7.83	481	2130	1370	0.54	53	35351
JULY -2013	2.34	7.81	<519	2310	1610	0.49	53	45081
AUGUST -2013	2.39	7.75	269	747	553	0.41	51	14890
SEPTEMBER-2013	2.40	7.79	>330	847	599	0.39	49	16954
OCTOBER -2013	2.31	7.89	219	608	438	0.34	45	11713
NOVEMBER -2013	2.45	7.91	246	779	555	0.34	43	15917
DECEMBER -2013	2.08	7.90	237	587	436	0.27	37	10183
Average	2.23	7.86	286	1020	719	0.37	47	18850


MBC Combined Centrate
2013 Monthly Averages - Flow
MGD
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

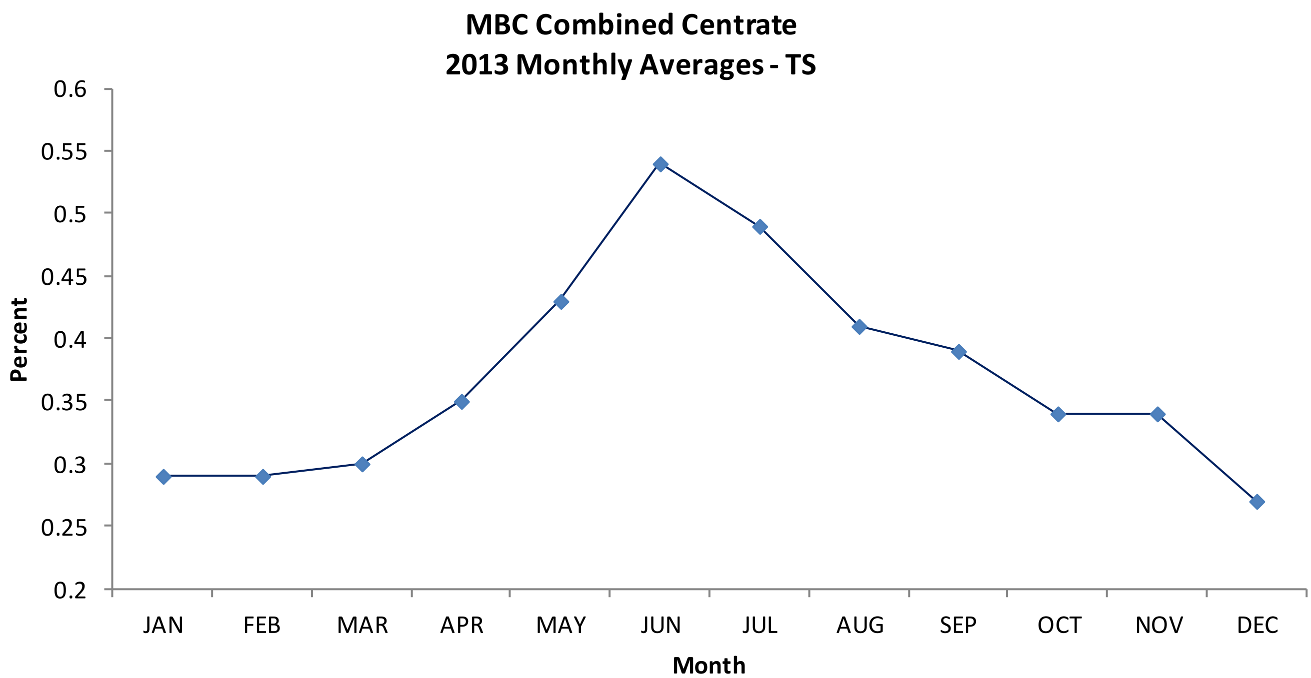

MBC Combined Centrate
2013 Monthly Averages - pH
pH Units
8
7.95
7.9
7.85
7.8
7.75
7.7
7.65
7.6
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


MBC Combined Centrate
2013 Monthly Averages - BOD
mg/L
700
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

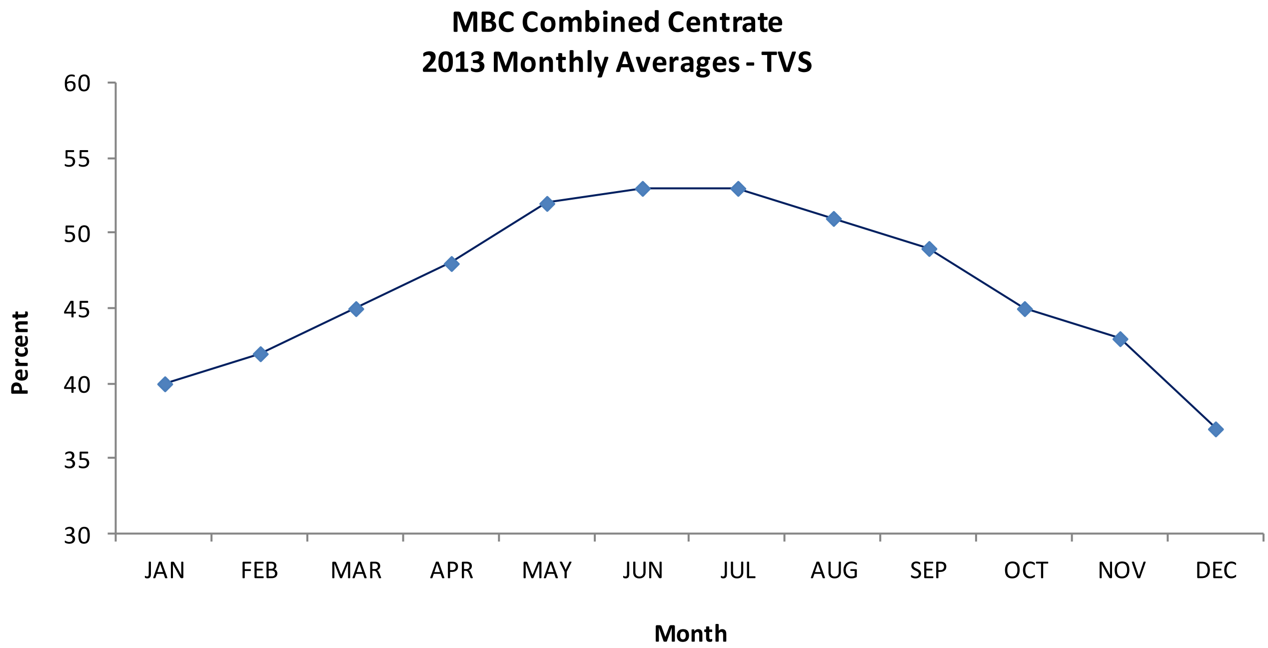

MBC Combined Centrate
2013 Monthly Averages - TSS
mg/L
3000
2500
2000
1500
1000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

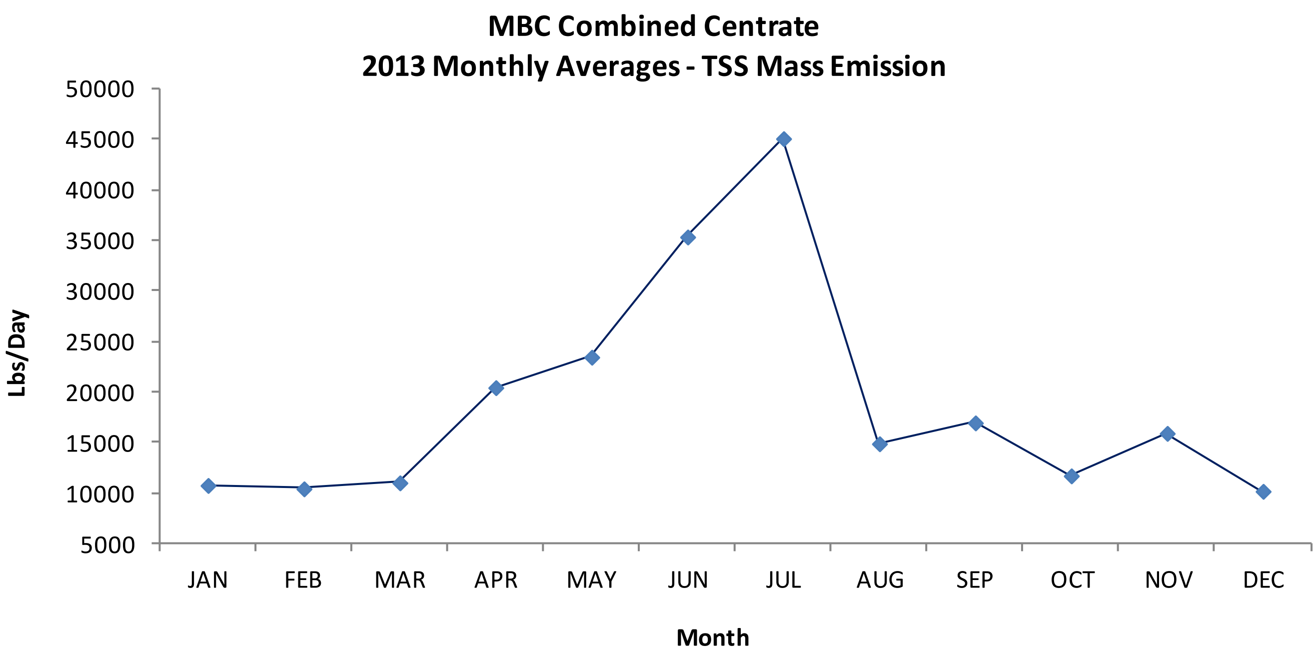


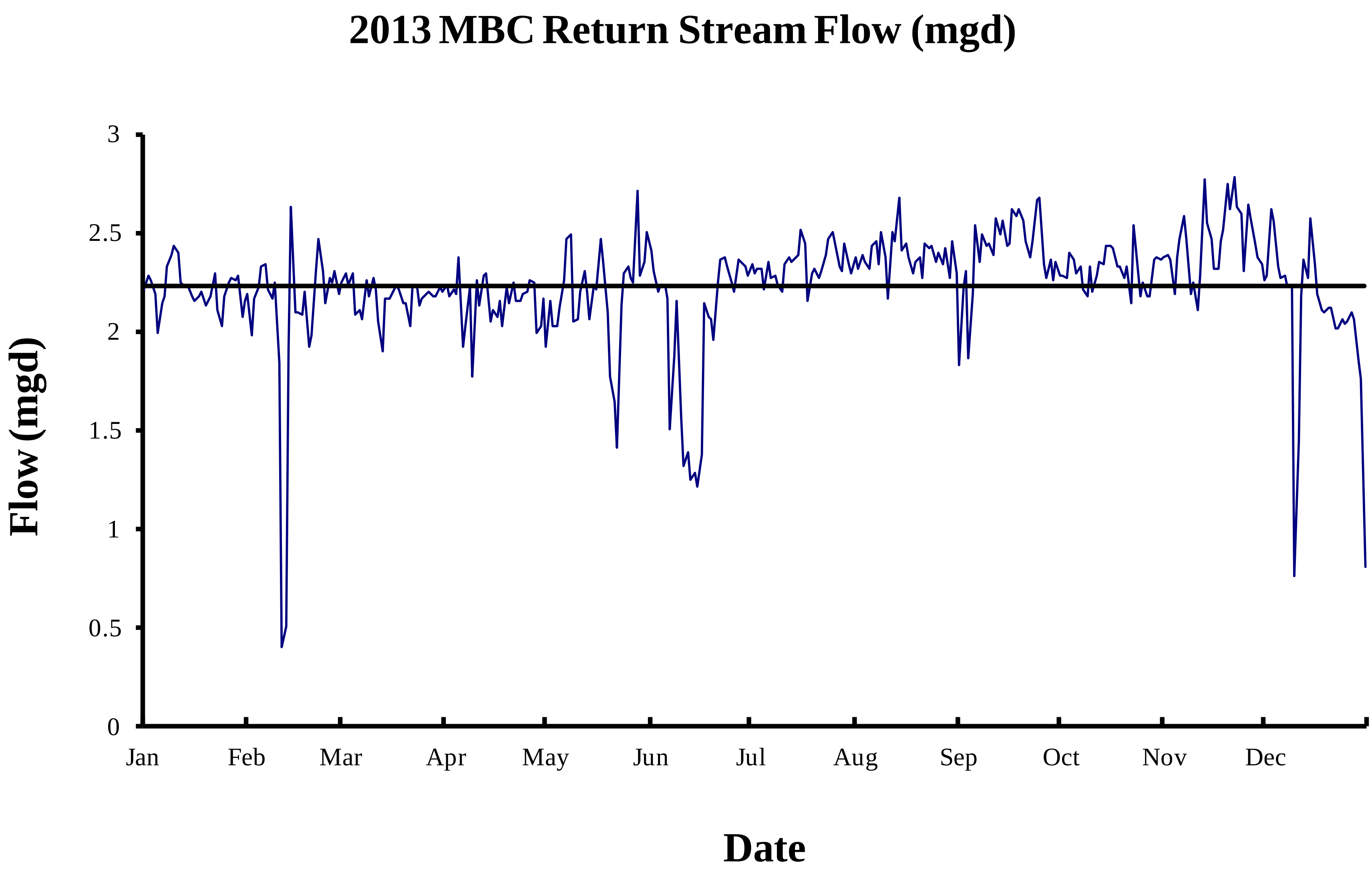
MBC Combined Centrate
2013 Monthly Averages - VSS
mg/L
1700
1500
1300
1100
900
700
500
300
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month



MBC Combined Centrate
2013 Monthly Averages - TS
Percent
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


MBC Combined Centrate
2013 Monthly Averages - TVS
Percent
60
55
50
45
40
35
30
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


MBC Combined Centrate
2013 Monthly Averages - TSS Mass Emission
Lbs/Day
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


2013 MBC Return Stream Flow (mgd)
Flow (mgd)
3
2.5
2
1.5
1
0.5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date

Metro Biosolids Center

2013 MBC Return Stream Daily Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	2.21	2.19	2.25	2.23	1.92	2.40	2.34	2.37	1.83	2.28	2.38	2.26	
2	2.28	1.98	2.29	2.18	2.15	2.31	2.30	2.31	2.23	2.28	2.38	2.28	
3	2.26	2.17	2.24	2.21	2.03	2.20	2.31	2.38	2.30	2.27	2.36	2.61	
4	2.19	2.22	2.30	2.19	2.02	2.23	2.31	2.35	1.86	2.40	2.19	2.56	
5	1.99	2.33	2.08	2.38	2.12	2.23	2.21	2.32	2.19	2.36	2.37	2.33	
6	2.14	2.33	2.11	1.92	2.26	2.16	2.35	2.43	2.53	2.30	2.47	2.27	
7	2.18	2.21	2.06	2.02	2.47	1.50	2.26	2.45	2.35	2.33	2.59	2.28	
8	2.33	2.17	2.26	2.22	2.49	1.87	2.28	2.34	2.49	2.21	2.47	2.22	
9	2.38	2.24	2.17	1.77	2.05	2.15	2.24	2.50	2.43	2.18	2.19	2.24	
10	2.43	1.84	2.26	2.25	2.06	1.56	2.20	2.37	2.44	2.33	2.24	0.75	
11	2.39	0.40	2.21	2.14	2.20	1.32	2.34	2.16	2.38	2.20	2.11	1.44	
12	2.25	0.50	2.05	2.28	2.31	1.38	2.38	2.50	2.57	2.29	2.28	2.18	
13	2.22	1.89	1.90	2.29	2.20	1.25	2.35	2.45	2.50	2.36	2.77	2.37	
14	2.24	2.62	2.17	2.05	2.06	1.28	2.37	2.68	2.56	2.34	2.54	2.27	
15	2.18	2.09	2.17	2.11	2.24	1.21	2.38	2.41	2.43	2.43	2.47	2.57	
16	2.15	2.09	2.19	2.08	2.22	1.37	2.52	2.44	2.44	2.43	2.32	2.34	
17	2.18	2.08	2.24	2.15	2.47	2.14	2.44	2.38	2.62	2.42	2.32	2.19	
18	2.20	2.20	2.21	2.02	2.35	2.07	2.15	2.29	2.59	2.33	2.46	2.11	
19	2.13	1.92	2.14	2.22	2.09	2.06	2.29	2.35	2.62	2.33	2.52	2.09	
20	2.15	1.98	2.15	2.14	1.76	1.96	2.32	2.38	2.56	2.26	2.75	2.12	
21	2.18	2.31	2.02	2.24	1.64	2.24	2.27	2.27	2.45	2.32	2.62	2.11	
22	2.29	2.47	2.23	2.16	1.40	2.36	2.30	2.45	2.37	2.14	2.78	2.02	
23	2.11	2.31	2.22	2.15	2.12	2.37	2.38	2.42	2.46	2.53	2.63	2.01	
24	2.03	2.15	2.13	2.19	2.30	2.33	2.47	2.43	2.67	2.43	2.59	2.06	
25	2.18	2.26	2.17	2.20	2.32	2.25	2.50	2.35	2.68	2.18	2.31	2.04	
26	2.25	2.25	2.18	2.25	2.27	2.20	2.44	2.40	2.34	2.24	2.64	2.05	
27	2.26	2.31	2.20	2.24	2.25	2.36	2.32	2.34	2.26	2.18	2.58	2.10	
28	2.26	2.18	2.18	1.99	2.71	2.35	2.30	2.42	2.37	2.18	2.44	2.06	
29	2.28		2.17	2.03	2.28	2.33	2.44	2.27	2.26	2.36	2.37	1.85	
30	2.07		2.22	2.16	2.36	2.28	2.33	2.46	2.35	2.37	2.34	1.76	
31	2.15		2.19		2.50		2.29	2.29		2.36		0.80	Annual Summary
Avg	2.21	2.06	2.17	2.15	2.18	1.99	2.34	2.39	2.40	2.31	2.45	2.08	2.23
Min	1.99	0.40	1.90	1.77	1.40	1.21	2.15	2.16	1.83	2.14	2.11	0.75	0.40
Max	2.43	2.62	2.30	2.38	2.71	2.40	2.52	2.68	2.68	2.53	2.78	2.61	2.78

POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL SLUDGE CENTRATE COMPOSITES
Trace Metals

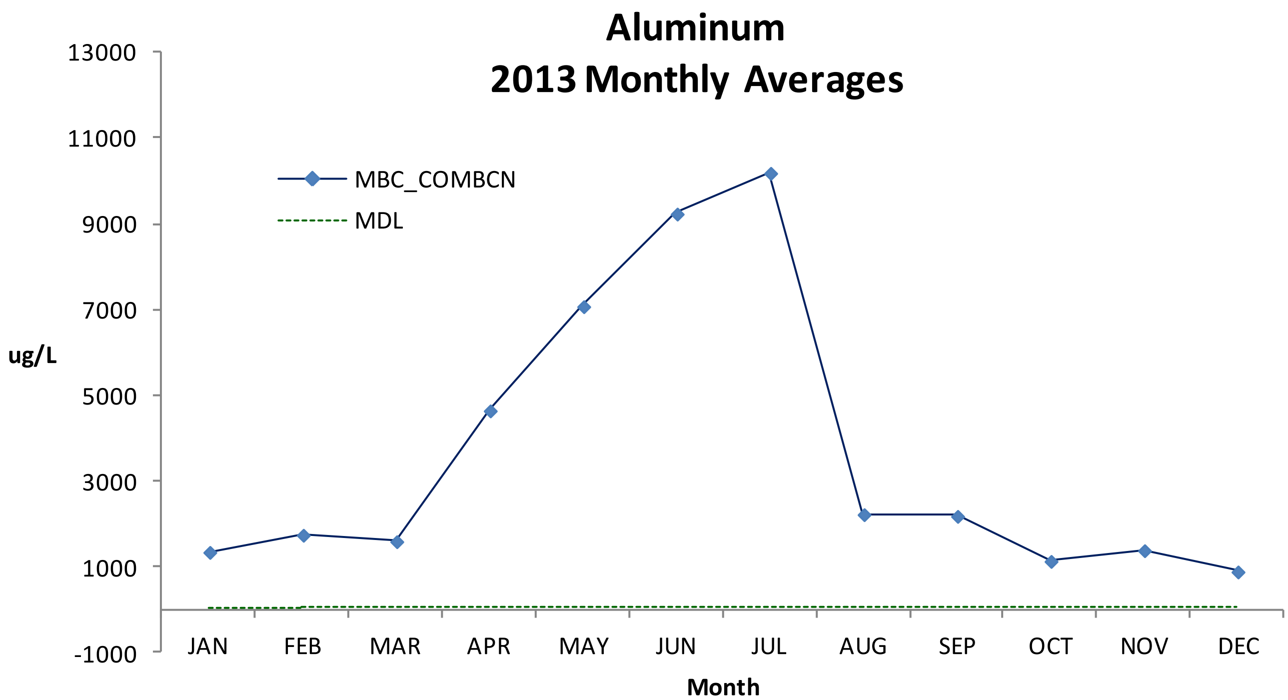
2013 Annual

Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Sample ID:			P649995	P653391	P657412	P660573	P664035	P667052
Aluminum	47	UG/L	1360	1760	1610	4660	7090	9250
Antimony	2.9	UG/L	ND	ND	ND	9.5	ND	11.6
Arsenic	.4	UG/L	3.1	3.2	3.3	6.1	6.6	7.4
Barium	.039	UG/L	149	162	145	381	443	741
Beryllium	.022	UG/L	ND	ND	ND	ND	0.08	0.06
Cadmium	.53	UG/L	ND	ND	ND	0.7	0.7	ND
Chromium	1.2	UG/L	12	14	12	42	72	88
Cobalt	.85	UG/L	4.0	4.4	6.0	7.1	9.3	12.0
Copper	2	UG/L	191	218	197	675	770	1240
Iron	37	UG/L	31900	37100	28800	73000	106000	173000
Lead	2	UG/L	5	7	6	18	16	42
Manganese	.24	UG/L	273	267	229	420	632	842
Mercury	.005	UG/L	0.13	0.01	0.05	0.27	0.64	1.56
Molybdenum	.89	UG/L	6.0	7.4	4.9	17.5	24.1	40.1
Nickel	.53	UG/L	25	30	27	58	96	116
Selenium	.28	UG/L	3.20	3.40	3.88	5.52	8.55	7.27
Silver	.4	UG/L	1	2	1	4	4	7
Thallium	3.9	UG/L	ND	ND	10	ND	ND	7
Vanadium	.64	UG/L	6.4	9.2	7.3	22.7	21.1	42.9
Zinc	2.5	UG/L	279	345	383	1010	1030	1730

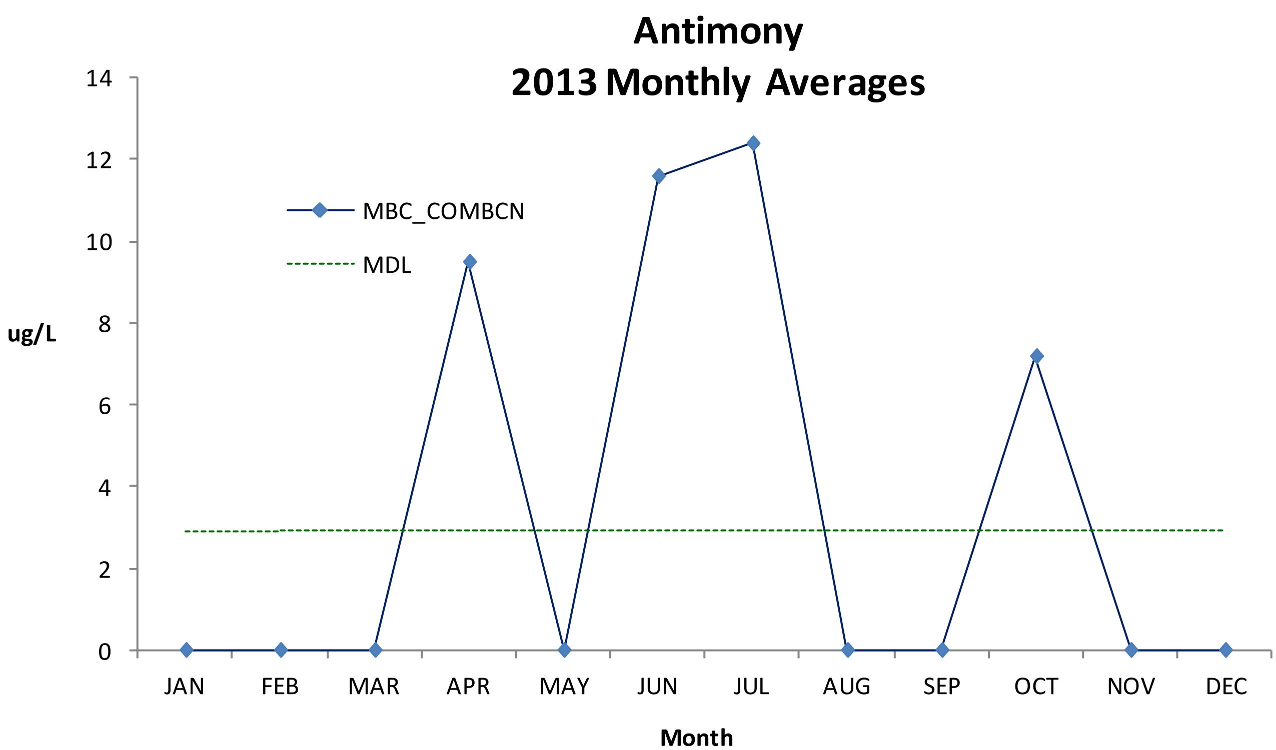
Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Sample ID:			P669947	P674860	P677799	P682541	P687317	P690538
Aluminum	47	UG/L	10200	2240	2200	1150	1400	904
Antimony	2.9	UG/L	12.4	ND	ND	7.2	ND	ND
Arsenic	.4	UG/L	8.6	3.3	3.3	2.7	3.4	2.5
Barium	.039	UG/L	747	263	285	211	239	200
Beryllium	.022	UG/L	ND	ND	ND	0.08	ND	0.06
Cadmium	.53	UG/L	3.0	ND	4.5	1.8	0.7	ND
Chromium	1.2	UG/L	77	14	15	10	12	11
Cobalt	.85	UG/L	9.3	6.0	7.0	6.5	5.9	5.6
Copper	2	UG/L	1510	320	306	223	251	181
Iron	37	UG/L	174000	48100	60400	36400	43400	31800
Lead	2	UG/L	44	10	49	11	10	5
Manganese	.24	UG/L	650	368	357	317	297	268
Mercury	.005	UG/L	0.56	0.18	0.22	0.06	0.08	0.13
Molybdenum	.89	UG/L	44.6	10.6	14.2	6.0	11.6	4.4
Nickel	.53	UG/L	90	32	41	31	31	25
Selenium	.28	UG/L	7.56	3.19	3.08	2.68	3.54	2.58
Silver	.4	UG/L	8	1	1	1	2	1
Thallium	3.9	UG/L	5	ND	6	ND	ND	7
Vanadium	.64	UG/L	53.1	17.5	21.2	18.6	22.6	14.3
Zinc	2.5	UG/L	2130	499	450	334	410	268

ND= Not Detected

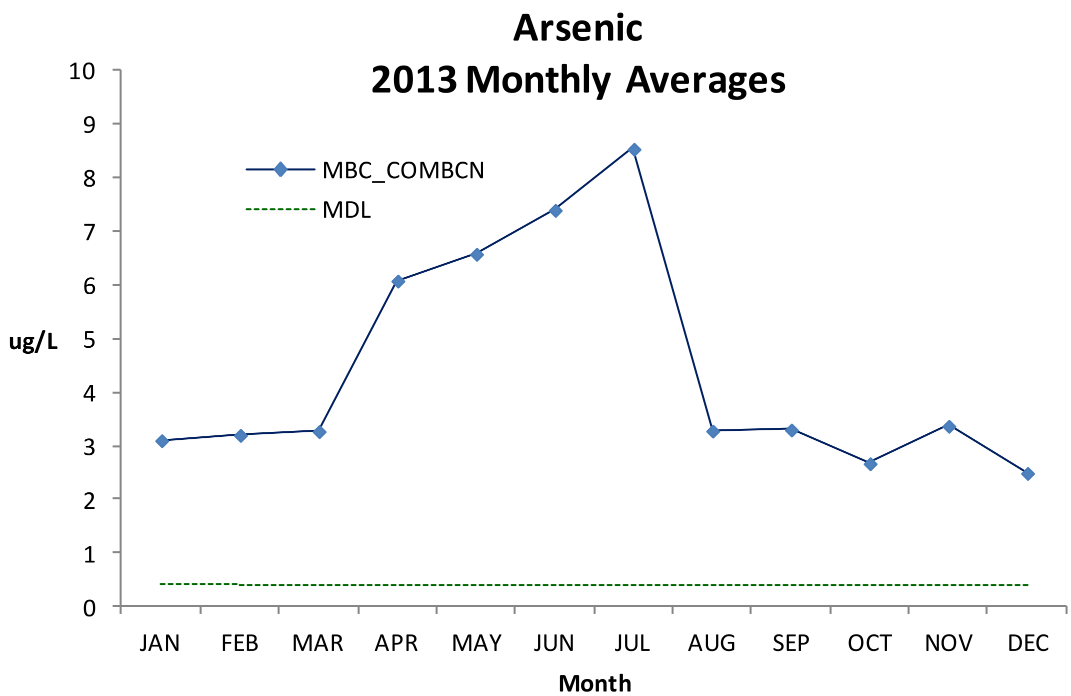
MBC_COMBCN= Metro Biosolids Center Combined Sludge Centrate.

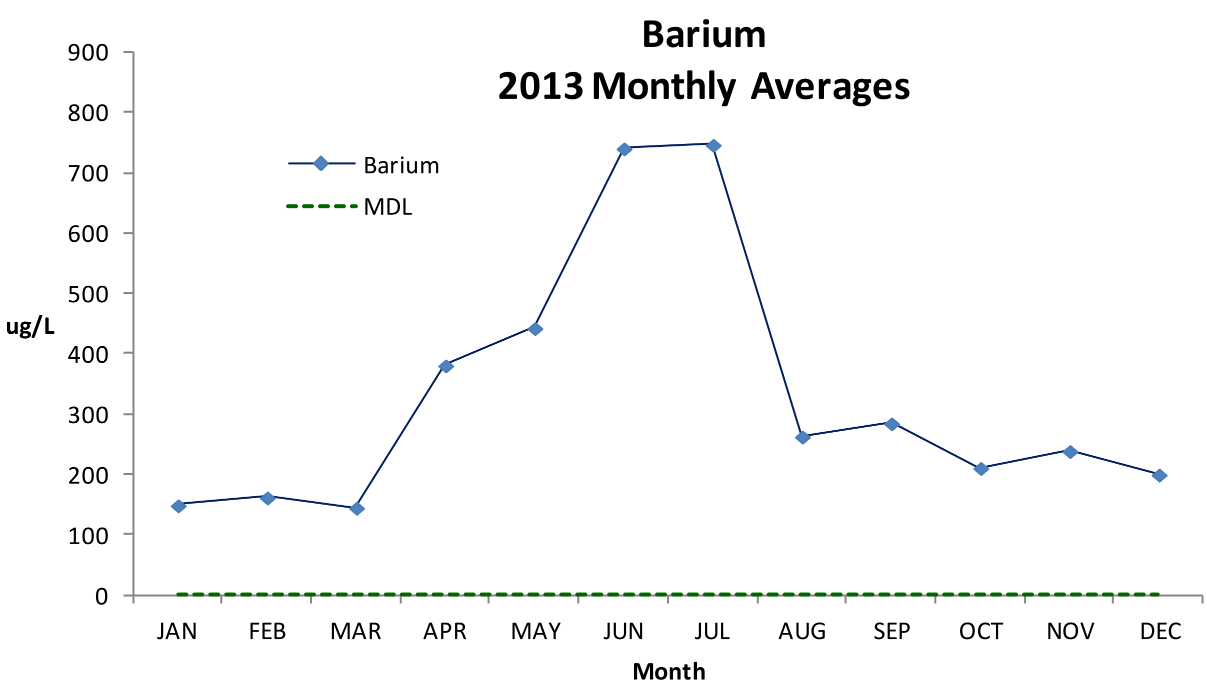


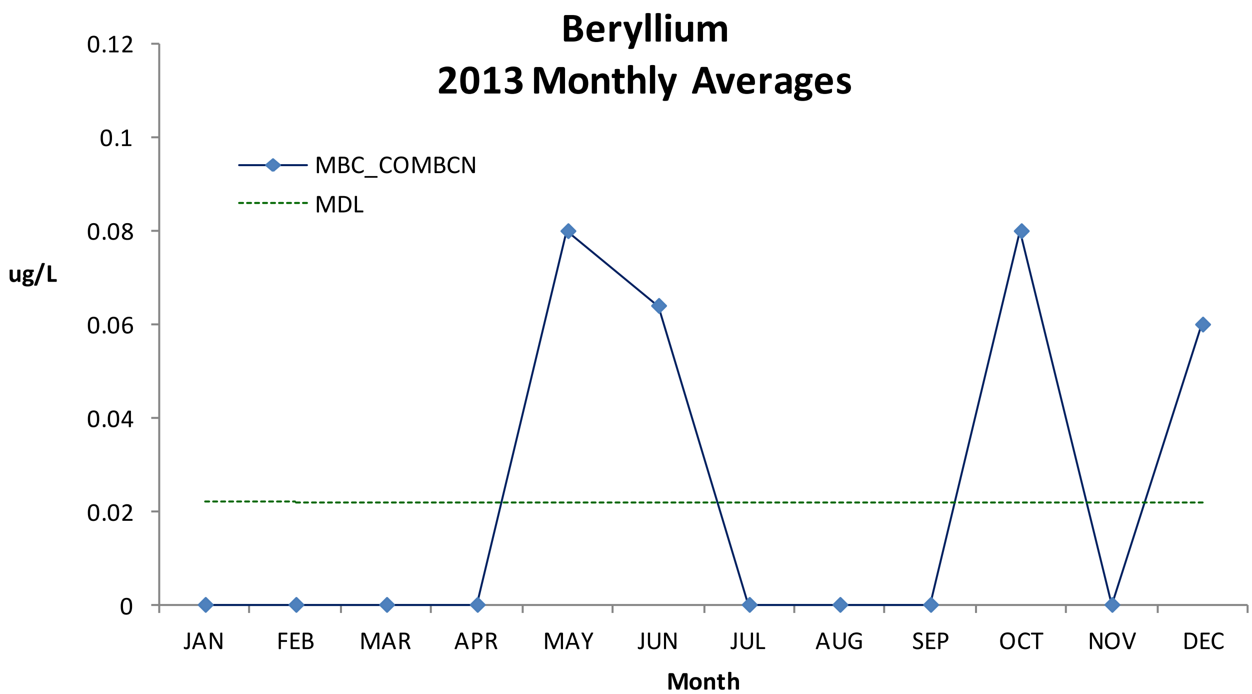
Aluminum
2013 Monthly Averages
13000
11000
9000
7000
5000
3000
1000
-1000
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

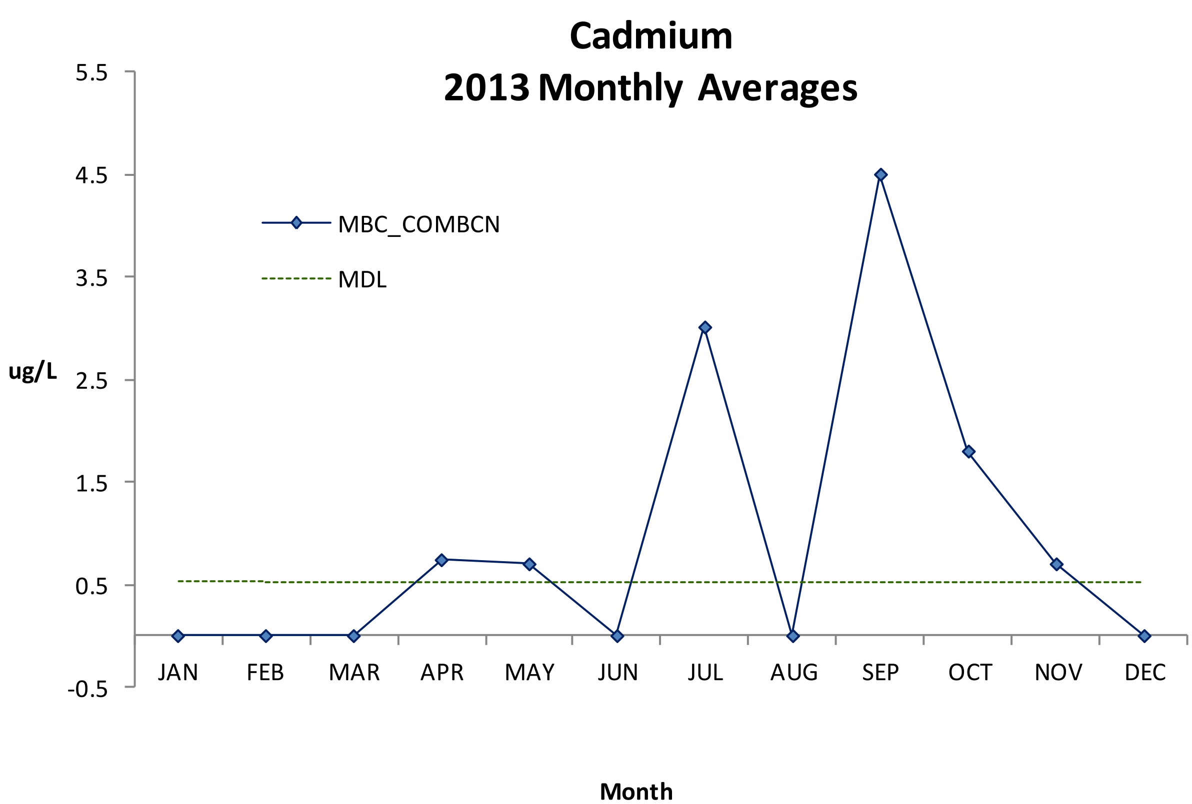


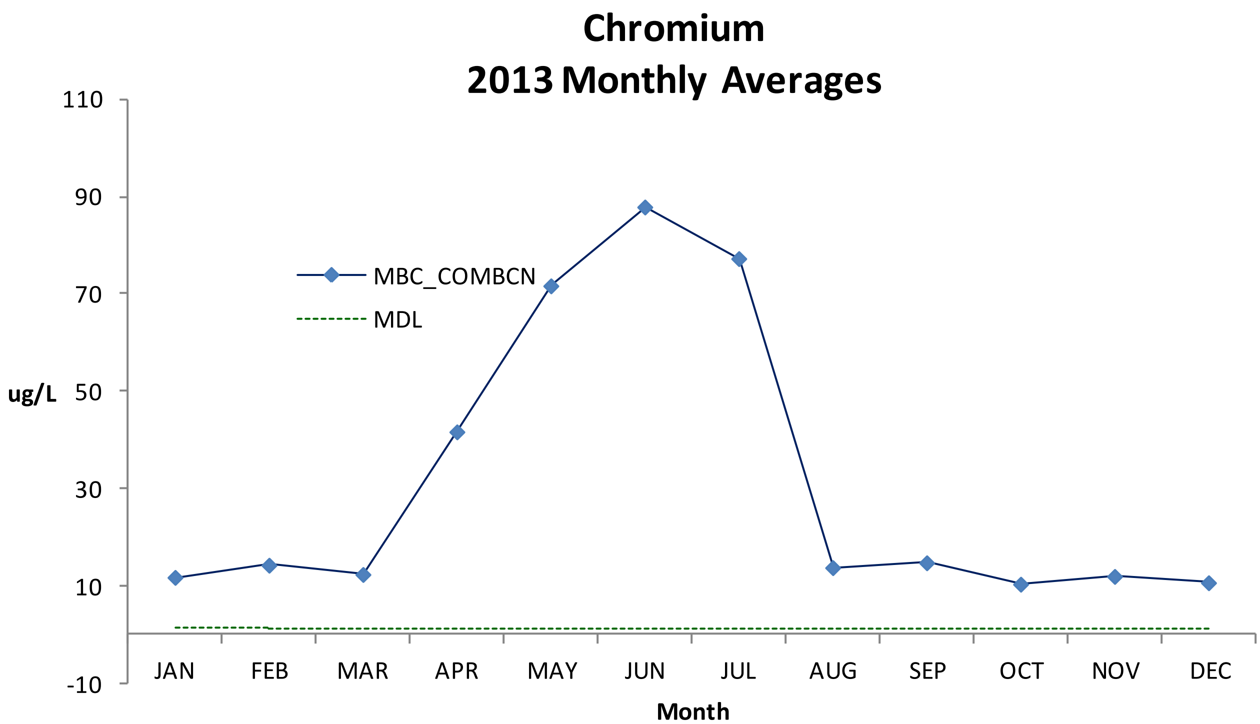
Antimony
2013 Monthly Averages
14
12
10
8
6
4
2
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

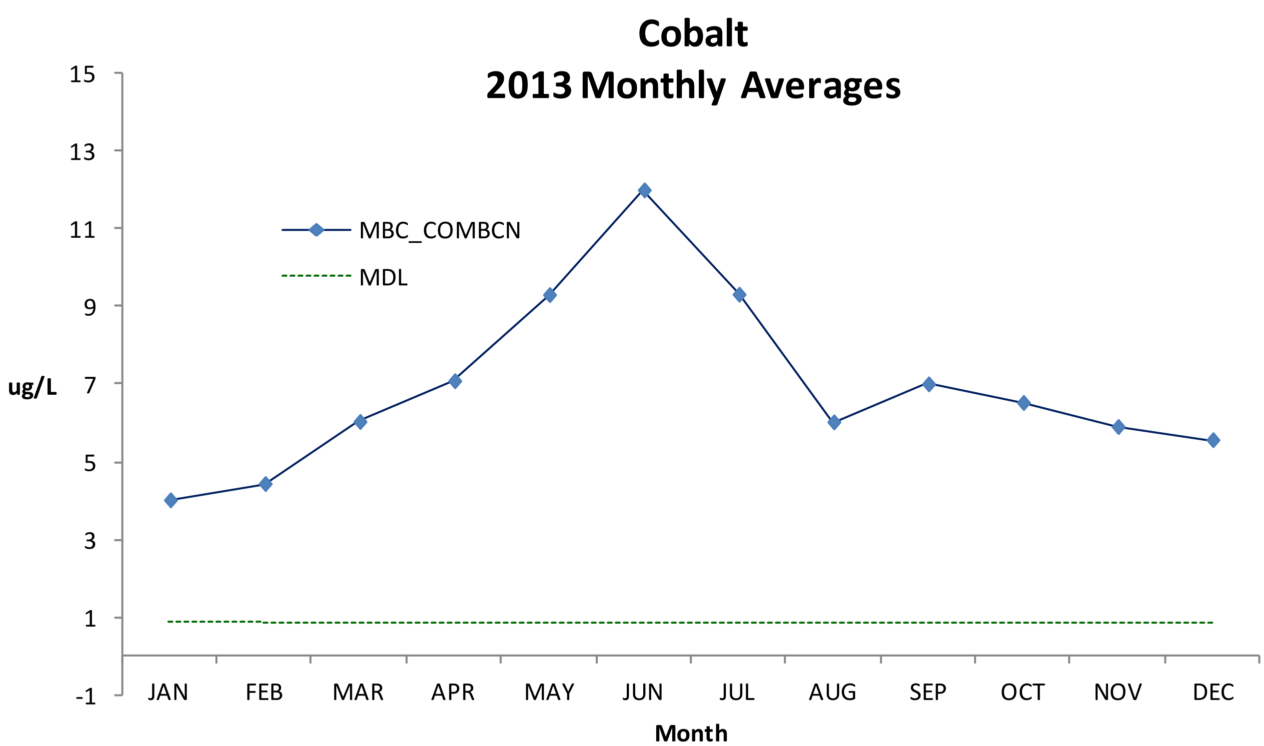

Arsenic
2013 Monthly Averages
10
9
8
7
6
5
4
3
2
1
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

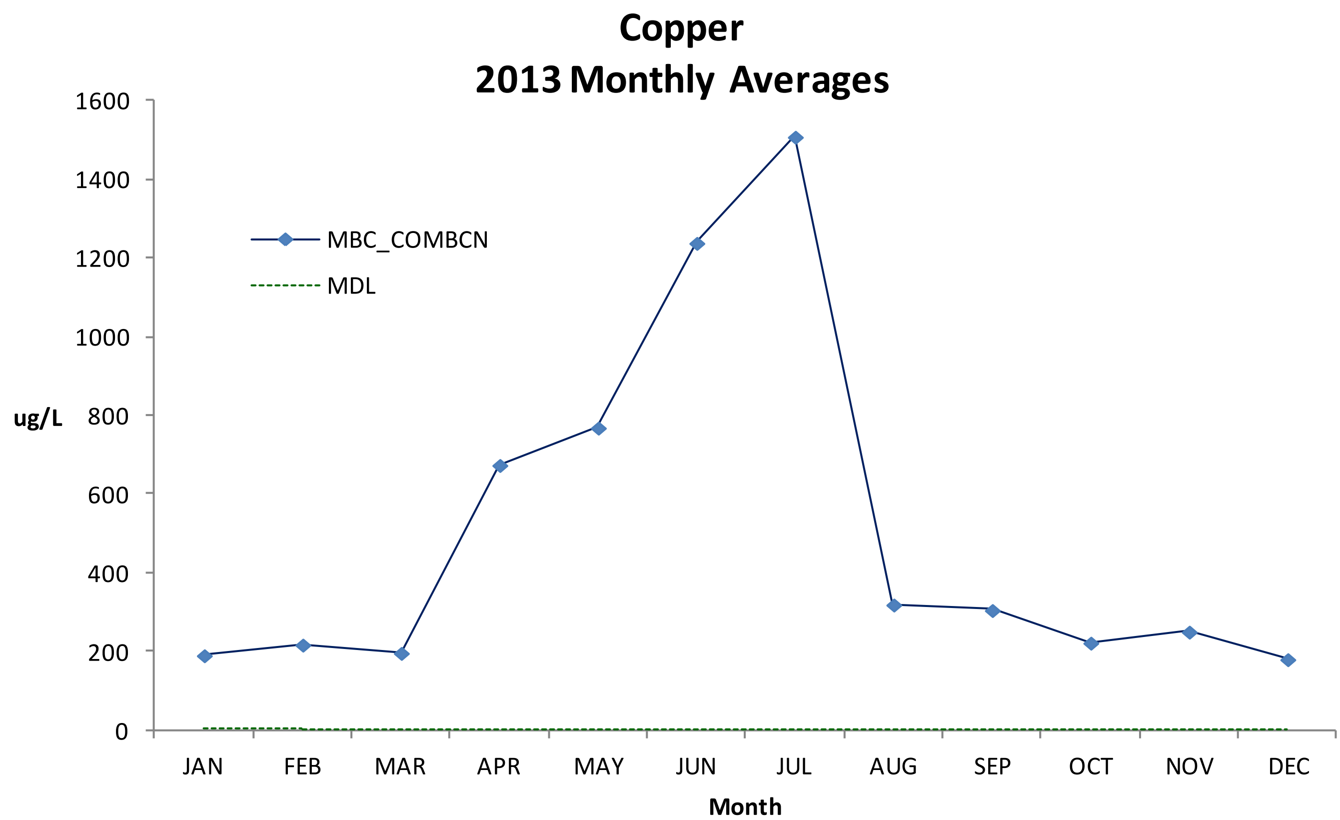

Barium
2013 Monthly Averages
900
800
700
600
500
400
300
200
100
0
ug/L
Barium
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

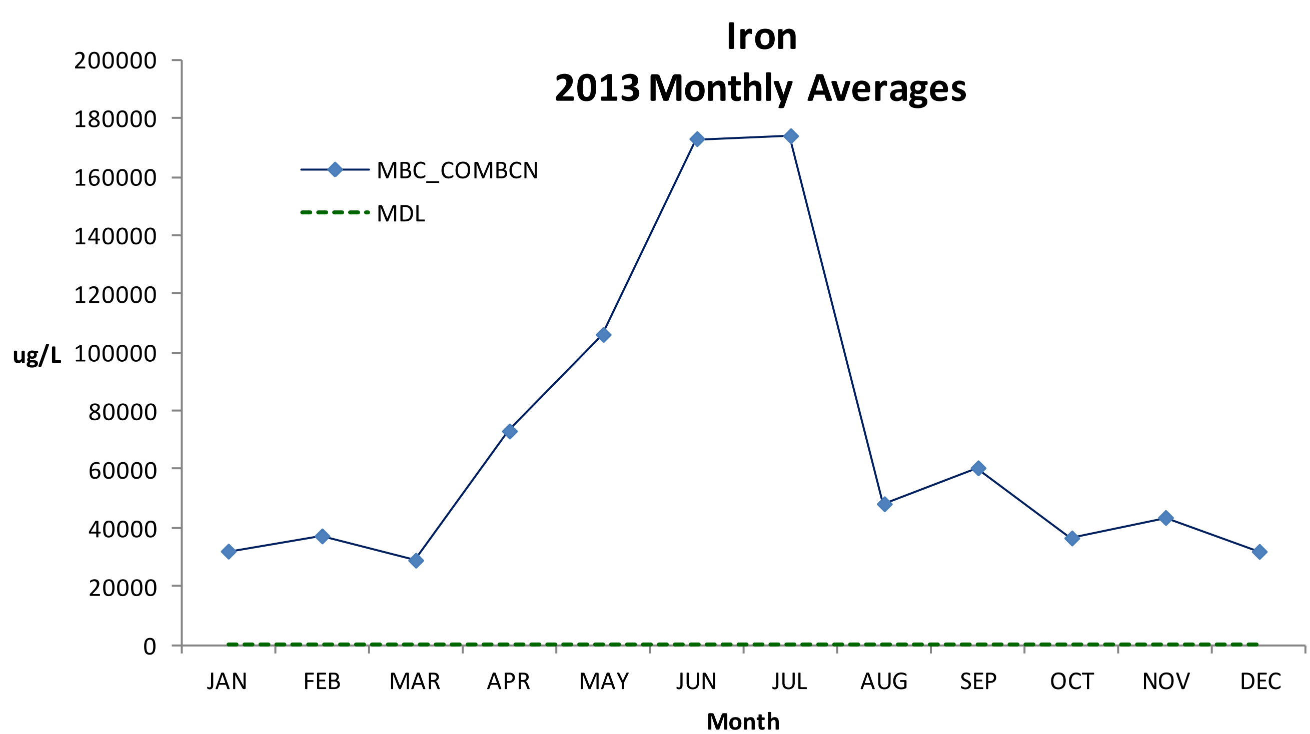

Beryllium
2013 Monthly Averages
0.12
0.1
0.08
0.06
0.04
0.02
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

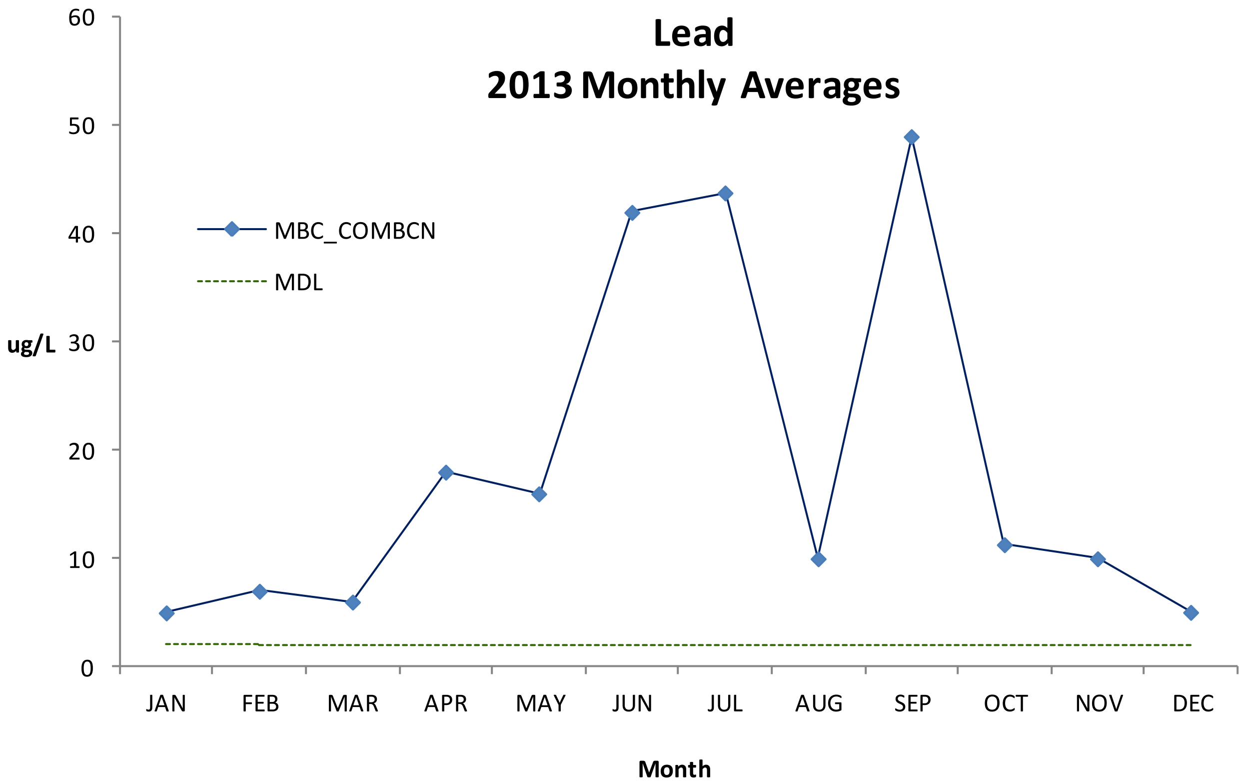

Cadmium
2013 Monthly Averages
5.5
4.5
3.5
2.5
1.5
0.5
-0.5
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

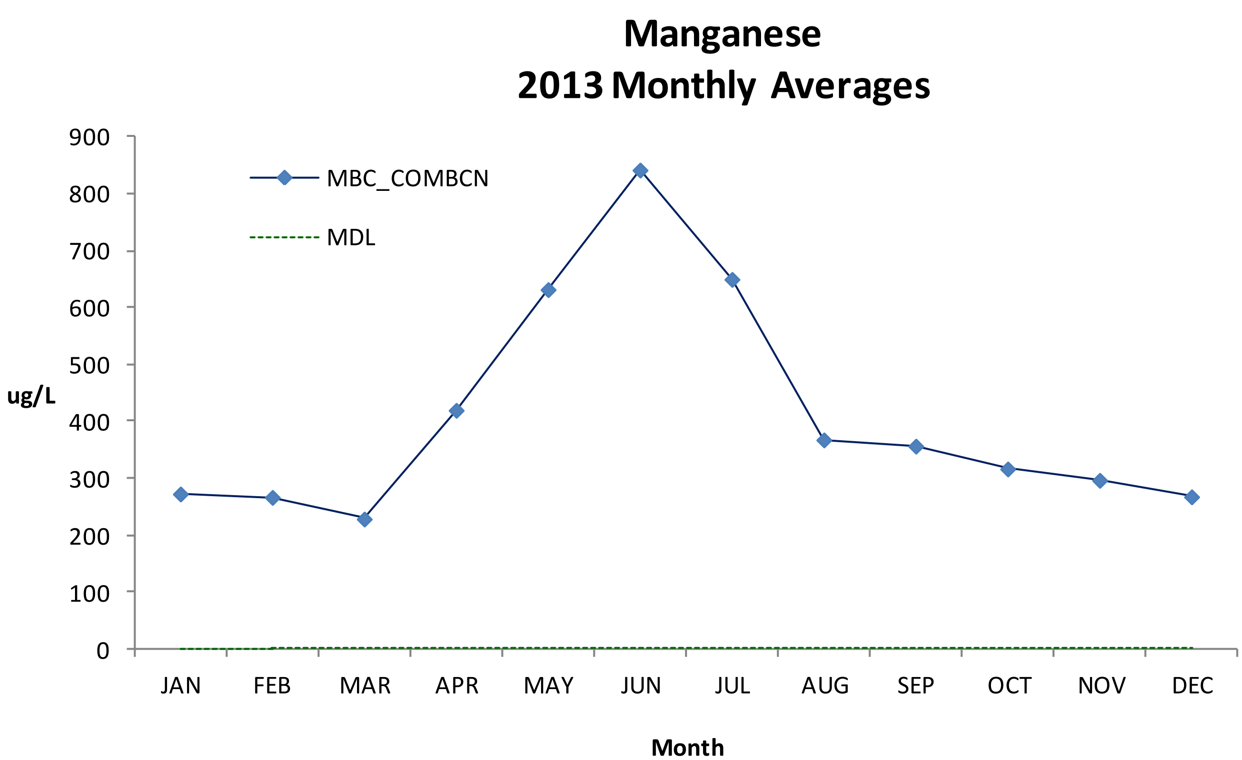

Chromium
2013 Monthly Averages
110
90
70
50
30
10
-10
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

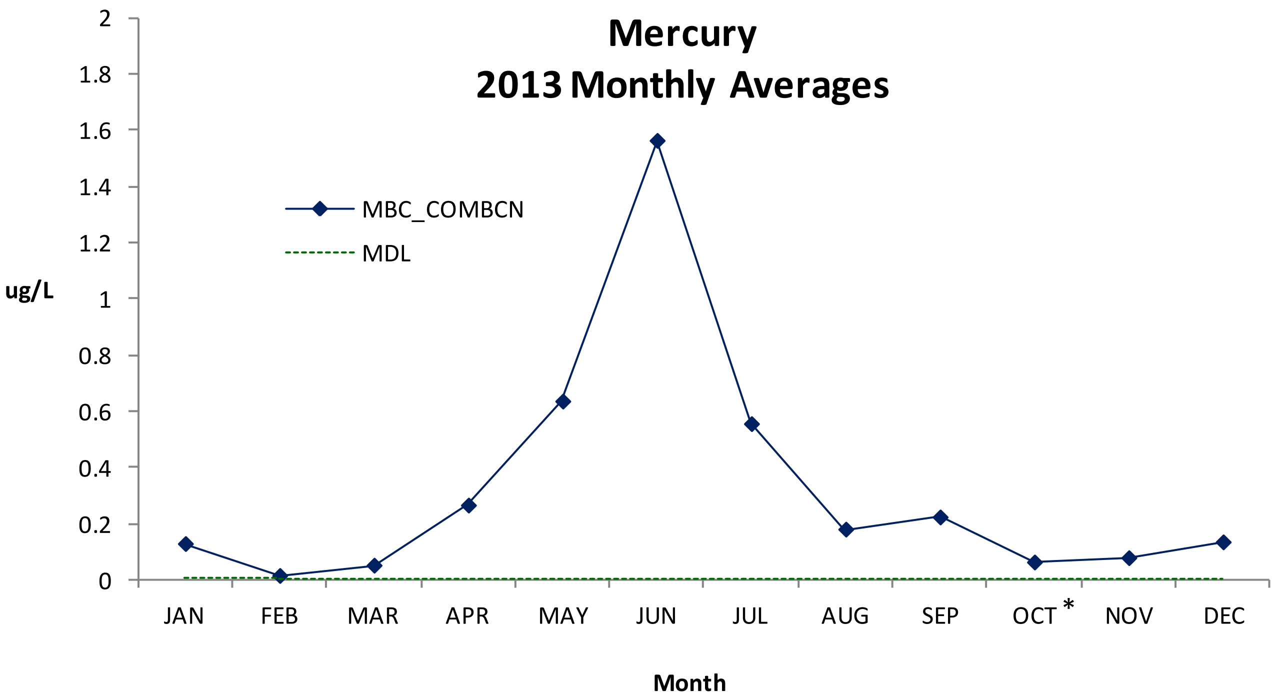

Cobalt
2013 Monthly Averages
15
13
11
9
7
5
3
1
-1
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

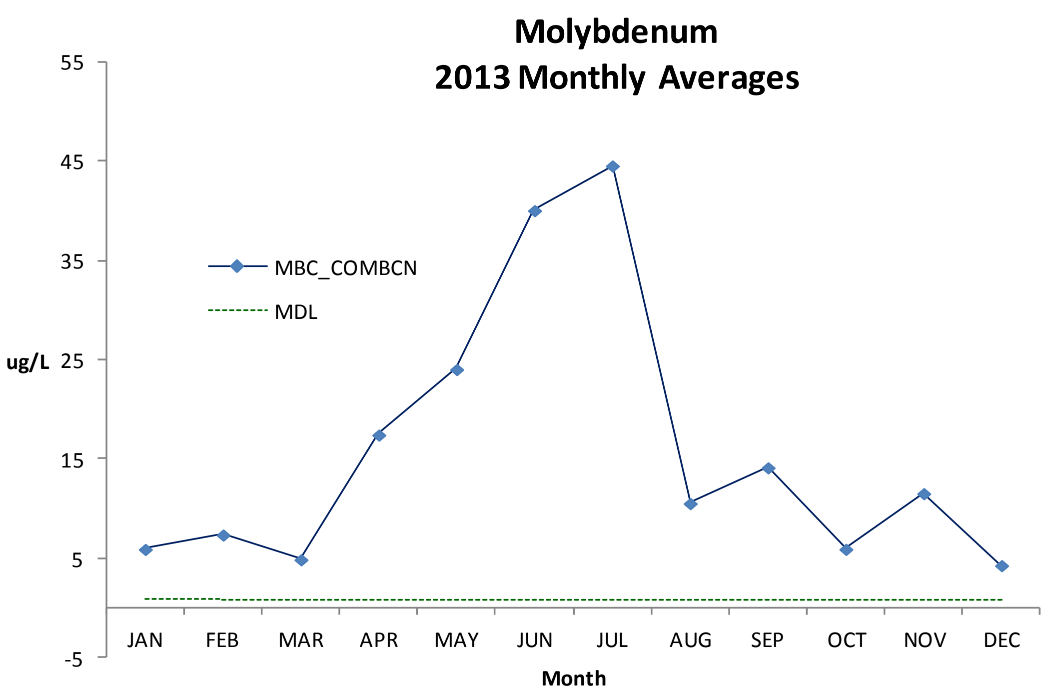

Copper
2013 Monthly Averages
1600
1400
1200
1000
800
600
400
200
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

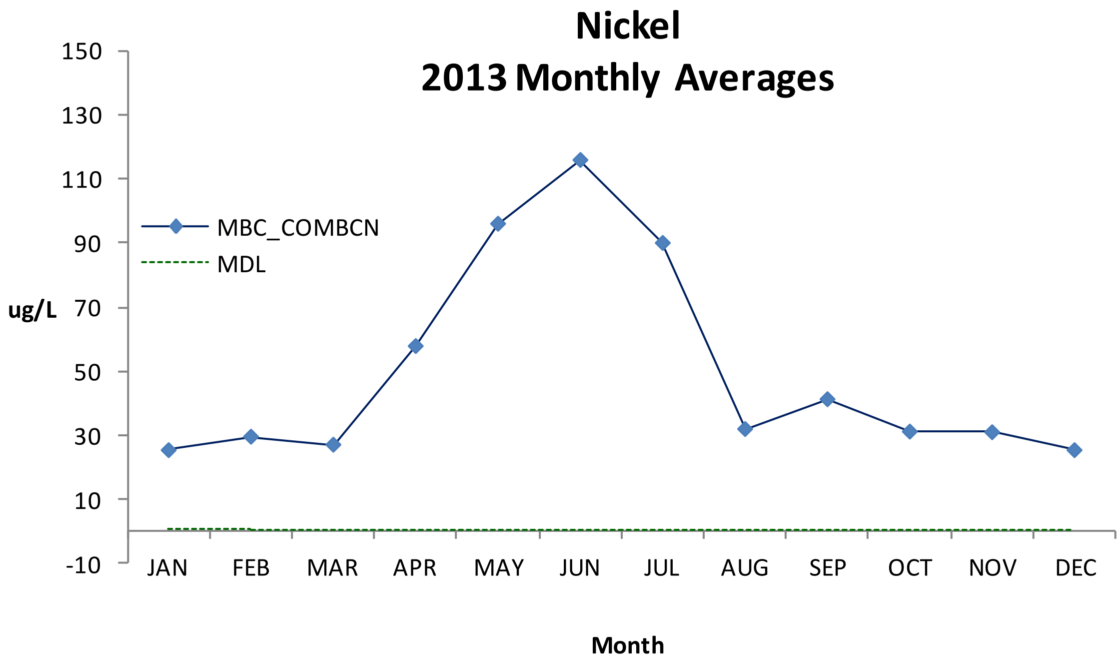

Iron
2013 Monthly Averages
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

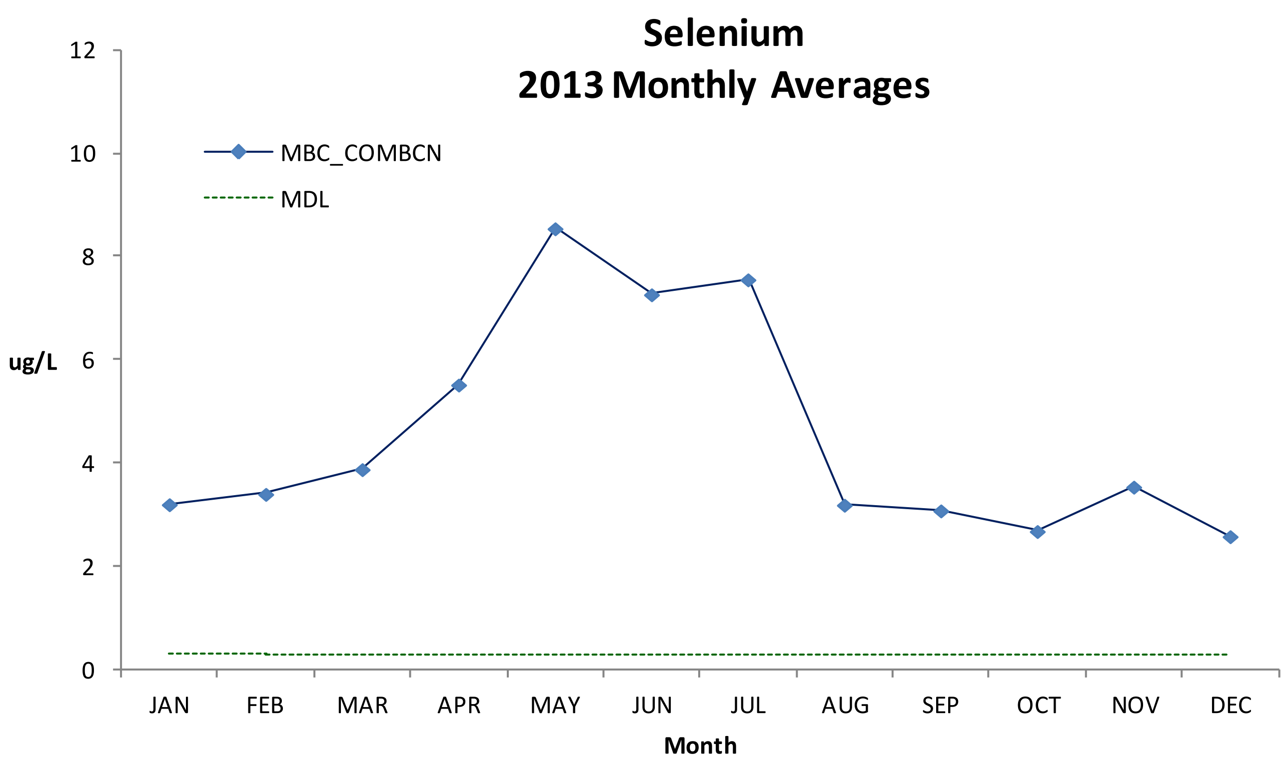

Lead
2013 Monthly Averages
60
50
40
30
20
10
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

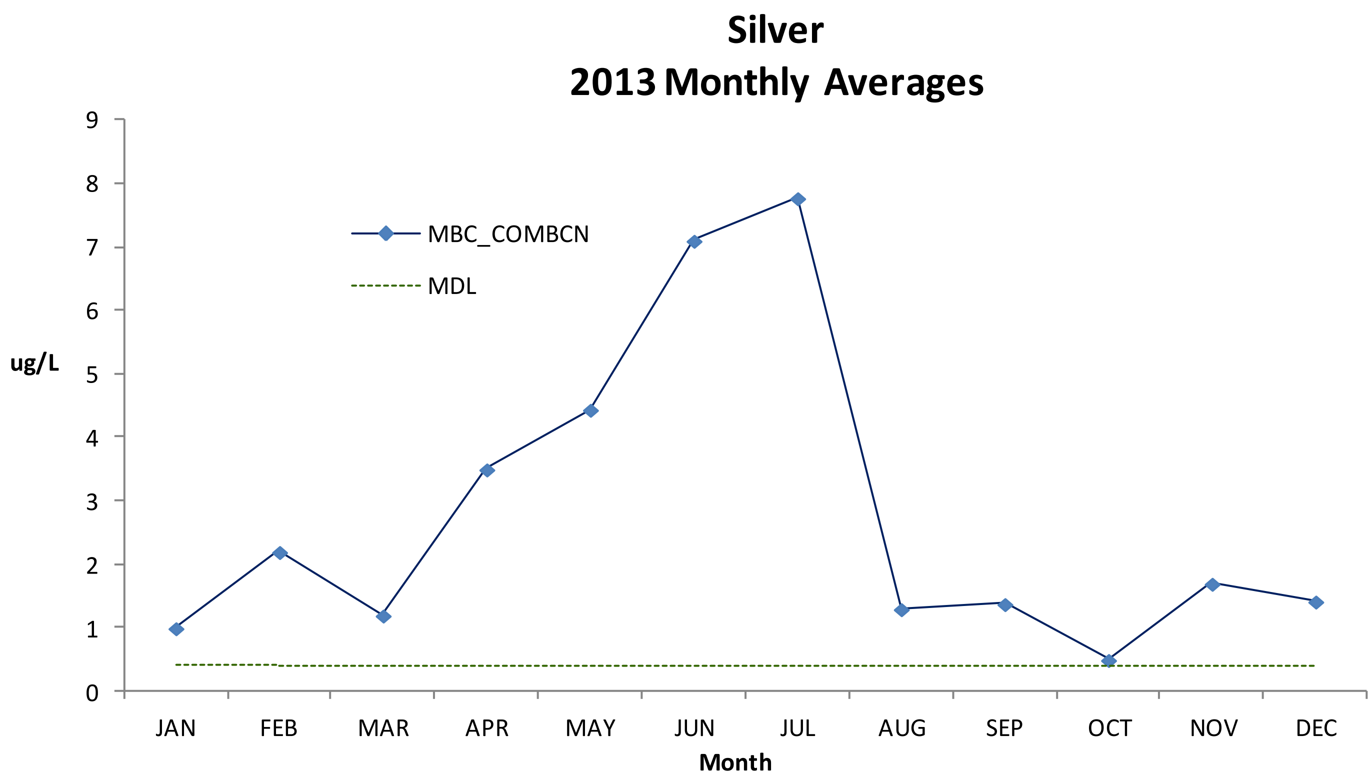

Manganese
2013 Monthly Averages
900
800
700
600
500
400
300
200
100
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Mercury
2013 Monthly Averages
MBC_COMBCN
MDL
ug/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT *
NOV
DEC
Month


Molybdenum
2013 Monthly Averages
MBC_COMBCN
MDL
ug/L
55
45
35
25
15
5
-5
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Nickel
2013 Monthly Averages
150
130
110
90
70
50
30
10
-10
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Selenium
2013 Monthly Averages
12
10
8
6
4
2
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Silver
2013 Monthly Averages
ug/L
9
8
7
6
5
4
3
2
1
0
MBC_COMBCN
MDL
JAN
FEB
MAR
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OCT
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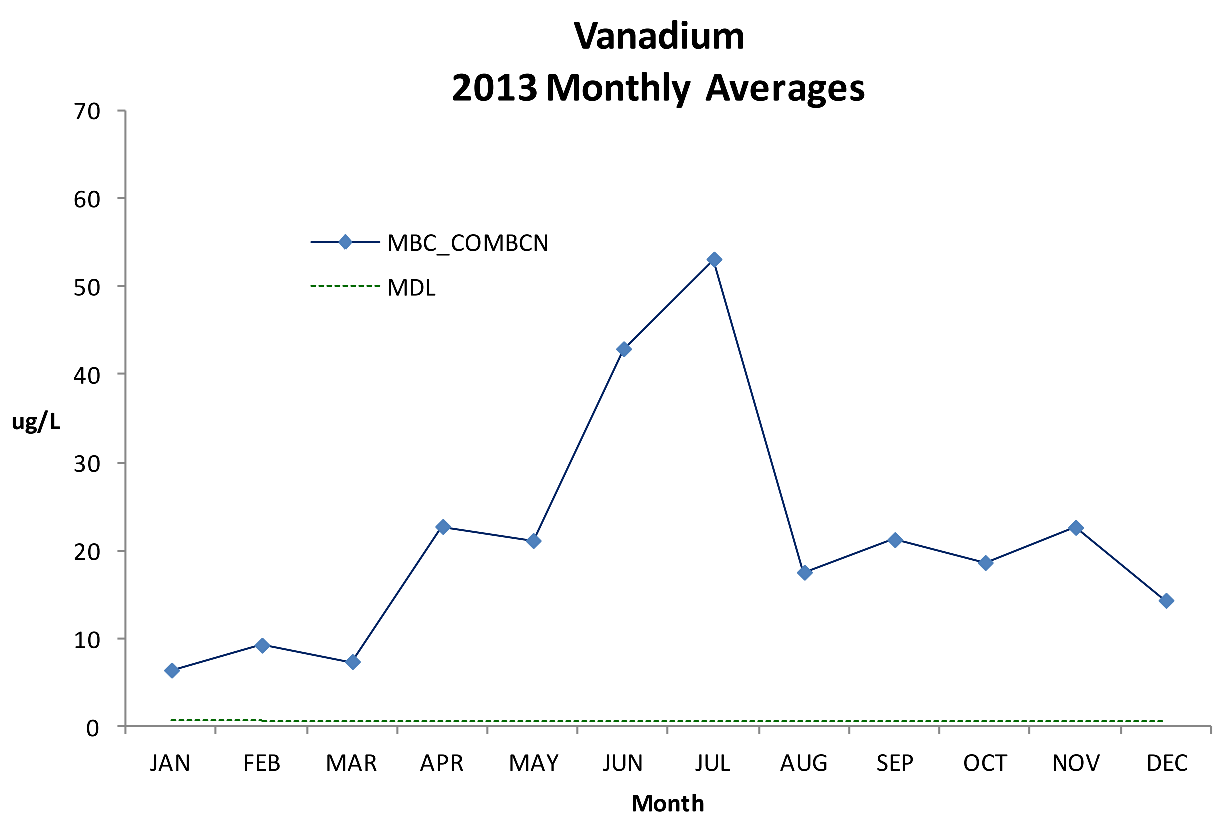
DEC
Month


Vanadium
2013 Monthly Averages
ug/L
70
60
50
40
30
20
10
0
MBC_COMBCN
MDL
JAN
FEB
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OCT
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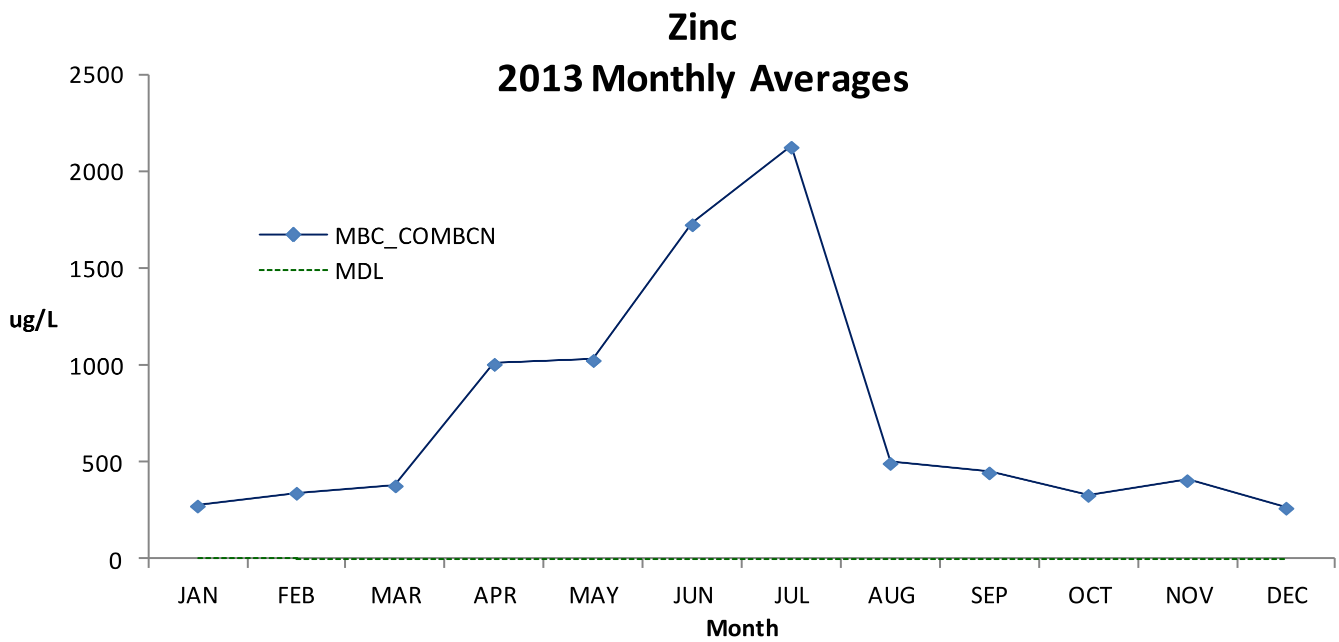
DEC
Month


Zinc
2013 Monthly Averages
2500
2000
1500
1000
500
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
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SEP
OCT
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Month

C. Digester and Digested Sludge Data Summary

MBC Digester and Digested Sludge Data Summary
Metro Biosolids Center Annual Report
Digesters
Year: 2013

Digester 1

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013				NOT IN SERVICE				
FEBRUARY -2013								
MARCH -2013								
APRIL -2013								
MAY -2013								
JUNE -2013								
JULY -2013								
AUGUST -2013								
SEPTEMBER-2013								
OCTOBER -2013								
NOVEMBER -2013								
DECEMBER -2013								
Average:								

Digester 2

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013				NOT IN SERVICE				
FEBRUARY -2013								
MARCH -2013								
APRIL -2013								
MAY -2013								
JUNE -2013								
JULY -2013								
AUGUST -2013								
SEPTEMBER-2013								
OCTOBER -2013								
NOVEMBER -2013								
DECEMBER -2013								
Average:								

Digester 3

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2013	7.02	2.5	64.9	2180	68	60.1	39.9	23
FEBRUARY -2013	7.02	2.6	65.8	2280	69	60.3	39.7	22
MARCH -2013	7.01	2.6	67.0	2310	59	60.0	40.1	24
APRIL -2013	7.03	2.7	66.1	2260	63	60.4	39.6	25
MAY -2013	6.92	2.9	66.2	1950	59	59.9	40.1	51
JUNE -2013	6.68	3.1	63.8	1090	63	59.0	41.0	53
JULY -2013	6.79	3.0	65.2	1290	66	60.3	39.7	30
AUGUST -2013	6.77	2.9	64.4	1420	64	60.6	39.4	28
SEPTEMBER-2013	6.79	2.8	62.9	1500	69	59.6	40.4	25
OCTOBER -2013	6.93	3.0	64.5	2010	69	61.2	38.8	24
NOVEMBER -2013	7.01	3.1	64.1	2170	73	61.2	38.8	24
DECEMBER -2013	7.03	3.0	64.1	2270	76	60.6	39.4	24
Average:	6.92	2.9	64.9	1894	67	60.3	39.7	29

D. Gas Production

Metro Biosolids Center
Gas Report - 2013

Daily Monthly Averages

	GAS PRODUCTION (x1000 Cu. Ft.)				GAS CONSUMPTION (x1000 Cu. Ft.)		
Month	DIG 1	DIG 2	DIG 3	Total Gas Production	GAS FLARES	GAS COGENERATION	Total Gas Consumption
01			257,599.4	257,599.4	3,529	257,978	261,507
02			252,798.2	252,798.2	8,314	255,759	264,073
03			261,587.2	261,587.2	1,664	262,133	263,797
04			265,305.6	265,305.6	559	270,649	271,208
05			236,826.6	236,826.6	1,804	240,482	242,286
06			176,209.4	176,209.4	3,130	182,407	185,536
07			234,706.1	234,706.1	751	241,653	242,404
08			243,125.4	243,125.4	1,701	253,668	255,368
09			213,744.8	213,744.8	1,477	226,605	228,081
10			246,852.2	246,852.2	1,113	257,877	258,990
11			259,100.0	259,100.0	0	275,930	275,930
12			261,924.7	261,924.7	1,427	268,014	269,442
avg			242,481.6	242,481.6	2,122	249,430	251,552

Monthly Totals

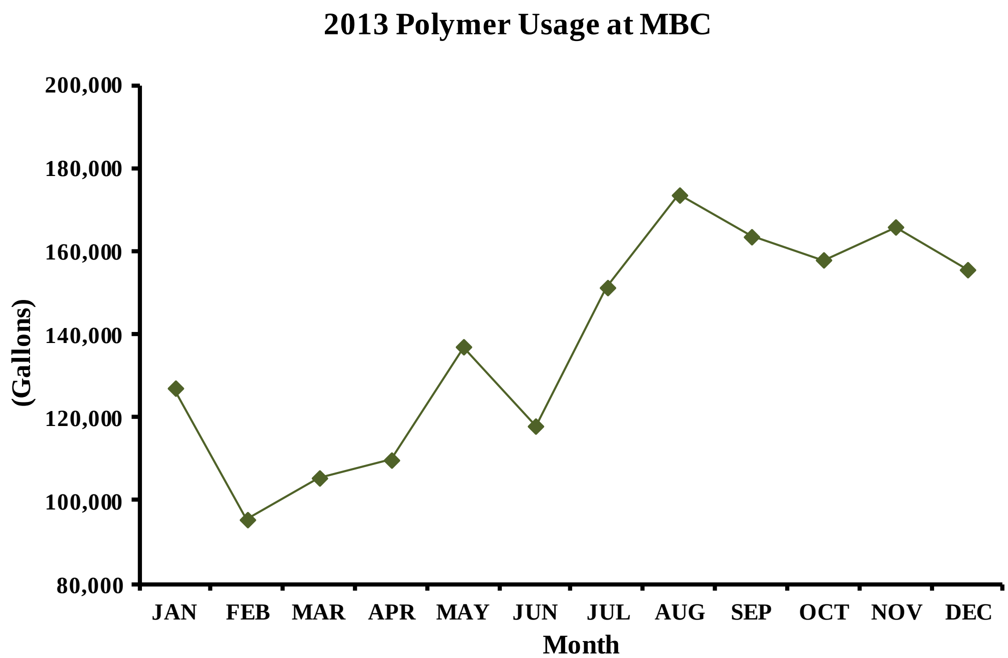
	GAS PRODUCTION (x1000 Cu. Ft.)				GAS CONSUMPTION (x1000 Cu. Ft.)		
Month	DIG 1	DIG 2	DIG 3	Total Gas Production	Gas Flares	Gas Cogeneration	Total Gas Consumption
01			7,985,580.0	7,985,580.0	42,351	7,997,314	8,039,665
02			7,078,349.0	7,078,349.0	24,941	7,161,262	7,186,203
03			8,109,202.0	8,109,202.0	44,928	8,126,136	8,171,064
04			7,959,169.0	7,959,169.0	16,761	8,119,484	8,136,245
05			7,341,626.0	7,341,626.0	55,930	7,454,951	7,510,881
06			5,286,283.0	5,286,283.0	93,888	5,472,201	5,566,089
07			7,275,888.0	7,275,888.0	23,271	7,491,238	7,514,509
08			7,536,888.0	7,536,888.0	52,718	7,863,695	7,916,413
09			6,412,345.0	6,412,345.0	44,295	6,798,140	6,842,435
10			7,652,419.0	7,652,419.0	34,503	7,994,186	8,028,689
11			7,773,001.0	7,773,001.0	0	1,379,649	1,379,649
12			8,119,665.0	8,119,665.0	44,250	8,308,446	8,352,696
avg			7,377,534.6	7,377,534.6	39,820	7,013,892	7,053,712
sum			88,530,415.0	88,530,415.0	477,836	84,166,702	84,644,538

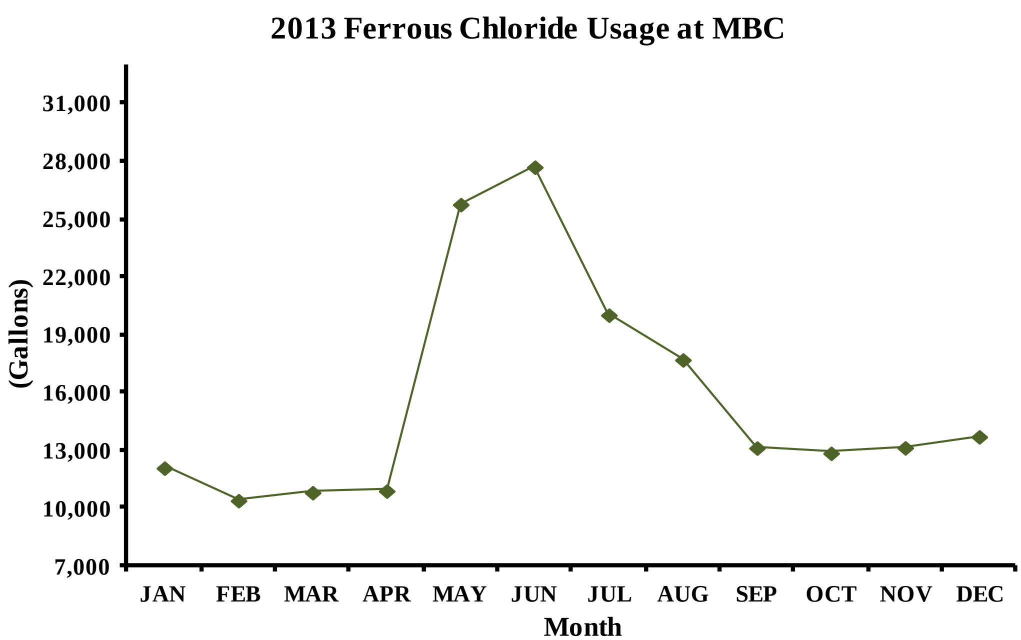
E. Chemical Usage

Metro Biosolids Center - Monthly Chemical Usage Report
Year: 2013

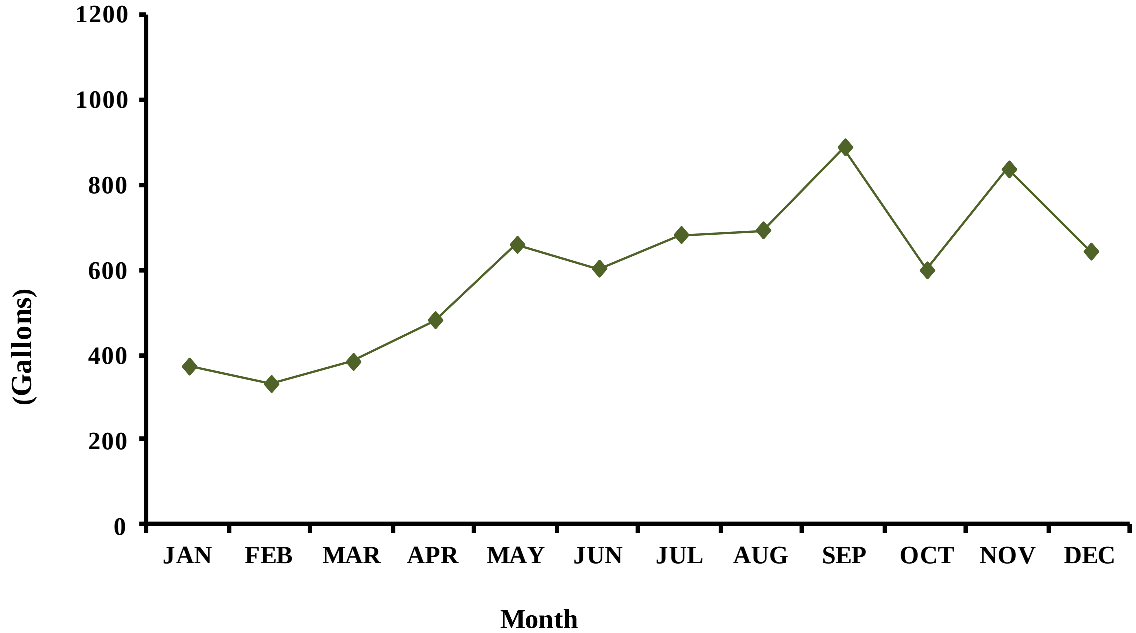
MON	Polymer Gallons	Ferric Chloride Gallons	Ferrous Chloride Gallons	Sodium Hydroxide Gallons	Hypochlorite Gallons	Sulfuric Acid Gallons
01	127,109	0	12,115	372	3,426	0
02	95,472	0	10,426	331	3,150	0
03	105,494	0	10,840	383	3,388	0
04	109,800	0	10,926	481	3,159	0
05	137,059	0	25,796	658	3,745	0
06	117,979	0	27,738	602	3,478	0
07	151,301	0	20,057	681	4,421	0
08	173,549	0	17,731	692	4,554	0
09	163,526	0	13,158	887	4,130	0
10	157,954	0	12,886	598	3,888	0
11	165,878	0	13,167	835	3,726	0
12	155,600	0	13,739	642	3,452	0
avg	138,393	0	15,715	597	3,710	0
sum	1,660,721	0	188,579	7,162	44,517	0

F. Graphs of Monthly Chemical Usage

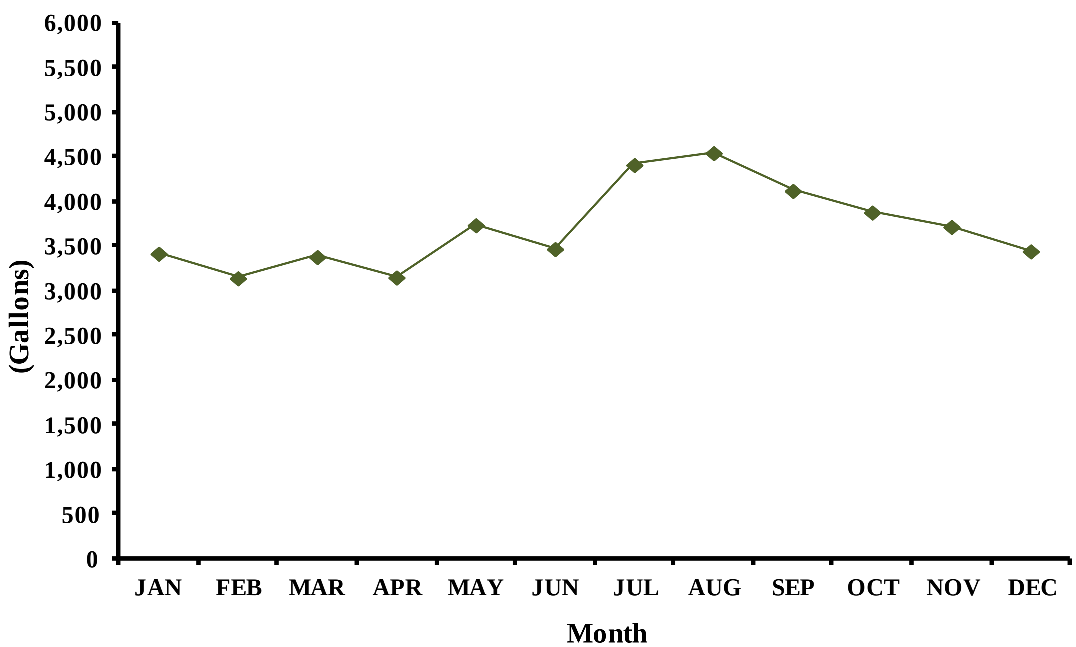




2013 Caustic Usage at MBC



2013 Sodium Hypochlorite Usage at MBC



G. Solids Handling Annual Report

2013 Annual Biosolids Beneficial Use & Disposal Report

Facilities:

Sources of biosolids:	Biosolids treatment and processing:
Point Loma Wastewater Treatment Plant (PLWWTP) 1902 Gatchell Rd., San Diego, CA	Metro Biosolids Center (MBC) 5240 Convoy Street, San Diego, CA 92111
North City Water Reclamation Plant (NCWRP) 4949 Eastgate Mall, San Diego, CA 92121	Point Loma Wastewater Treatment Plant (PLWWTP) 1902 Gatchell Rd., San Diego, CA

The Point Loma Wastewater Treatment Plant (PLWWTP) and the North City Water Reclamation Plant produced and disposed of 124,044 wet tons or 34,293 dry tons (31,110 dry metric tons) of digested sludge (biosolids) in 2013.

All digested sludge produced at the Pt. Loma WWTP was pumped to the Metro Biosolids Center (MBC) for dewatering by centrifuges. All biosolids were then hauled to a disposal site (Local Landfill) or beneficial use site. During this reporting period all of the raw sludge produced at the North City Water Reclamation Plant (NCWRP) was diverted to the Metro Biosolids Center for thickening, degritting, digestion, and blended with the digested solids from the PLWWTP prior to dewatering. The MBC Monthly Biosolids Processing Reports include the biosolids processed from the PLWWTP and the NCWRP. Copies of the MBC Monthly Biosolids Processing Reports and the MBC Biosolids Beneficial Use and Disposal Monthly Summary Reports detailing daily biosolids processing and beneficial use/disposal are included as Enclosures 1 and 5, respectively.

All of the sludge/biosolids produced by the City of San Diego, Pt. Loma Wastewater Treatment Plant and North City Water Reclamation Plant were dewatered at the Metro Biosolids Center(MBC) and disposition is summarized in the following table.

Disposition	**Wet tons (short)**	**Dry tons**[14]	**Dry metric tons**
Beneficial reuse as Alternative Daily Cover (ADC) at landfill – (FROM PTL)	**6,402**	**1,775**	**1,610**
Beneficial reuse as Alternative Daily Cover (ADC) at landfill - (FROM MBC)	**99,079**	**27369**	**24,829**
Land application in Arizona	**18,5623**	**5148**	**4671**

All Biosolids produced by the City of San Diego were treated to Class B standards through Anaerobic Digestion for a minimum of 15 days at a temperature of 35 to 55 degrees Centigrade (Alternative 3, Process 3). Vector Attraction requirements were achieved by reducing the volatile solids content a minimum of 38 percent (Option 1).

14 (based on sum of monthly total tons)

Land Applier: **Solid Solutions, LLC**
Address: 12812 Valley View St, #9, Garden Grove, CA 92845
Period: January 1, 2013 - December 31, 2013
Reuse method: Direct land application. Digested dewatered sludge from the MBC centrifuges were land applied directly to fields in Yuma County, AZ. The sludge was certified by the City of San Diego as meeting Class B pathogen and vector attraction reduction requirements of 40 CFR 503. Copies of the City of San Diego's certifications (which also serve as notification of nitrogen content) are included as Enclosure 2. Copies of Solid Solutions' certification statements are included as Enclosures 11 & 12.

The MBC provides two essential treatment processes, thickening and digestion of the raw solids from the NCWRP and dewatering of biosolids generated at the NCWRP and the PLWWTP. The digested biosolids from the PLWWTP are pumped to MBC in a 17 mile pipeline into one of the two storage tanks on site where it is blended with the digested biosolids from the NCWRP. Before these biosolids are sent to the dewatering process polymer and ferric chloride are added to condition the biosolids, which enhances the dewaterablility of the biosolids and minimizes the potential of scale formation.

Eight dewatering centrifuges are used to separate the liquid and solids fractions of the conditioned biosolids. The liquid fraction, (centrate) is returned to the PLWWTP via the Rose Canyon Interceptor and the solids recovered, (cake), is pumped to one of the eight storage silos on site before it is loaded into trucks for disposal and beneficial use as Alternative Daily Cover at Otay Landfill or beneficially used for land application in Yuma County, Arizona, Tables 1B and Table 1C.

The digested biosolids, centrate and dewatered cake are sampled on a daily basis to ensure regulatory compliance and to track plant process performance. Grab samples are collected daily on the incoming biosolids from the PLWWTP and the blended biosolids, which includes the digested biosolids from the NCWRP. The operation's staff also collects a twenty-four hour composite sample from the centrate return stream from the dewatering process and from the blended centrate return stream that includes the centrate flow from the thickening and dewatering processes.

Daily grab samples of dewatered cake are collected from each individual dewatering centrifuge that are in operation during the 24 hour period , and a portion of each of these grab samples are combined to provide a daily composite of dewatered cake produced. All sampling at MBC is performed by Wastewater Plant Operators who are certified by the State of California and in conformance with established sampling techniques listed in Standard Methods.

Because the dewatered cake samples are a daily composite and the Land Applier's (Solids Solutions) samples are a monthly grab sample, the dry ton calculations may differ slightly.

In addition to the monthly analyses of 503 and California Title 22 analyses by our California certified laboratory, and in accordance with the Arizona Department of Environmental Quality (ADEQ), grab samples were delivered to an Arizona certified laboratory. Legend Technical Services of Arizona, Inc, 17631 North 25th Avenue, Phoenix, AZ 85023, ADHS#AZ0004 provided EPA Part 503 Table 3 Metals and Nitrogen analysis. See Enclosure 14.

Biosolids used for all uses in 2013 continued to meet all regulatory requirements. Concentration of pollutants were all well below the limits listed in California Title 22 Hazardous Waste thresholds including TTLC (Total Threshold Limit Concentration), STLC (Soluble Threshold Limit Concentration), and 40 CFR part 503.13 Table 3 "Limits for Land Application", the lower lead limit established by the California State Health and Safety Code 25157.8. It also met the A.C.C. (Arizona Administrative Code) R18-9-1005 Table 2. Monthly Average Pollutant Concentration limits.

Additional analyses, including the rest of the "priority pollutant list"15, were performed during 2013 and the reports of these analyses are included in Enclosure 7.

Table 1.A. Landfill location used during 2013 is as follows:

Otay Landfill 1700 Maxwell Road Chula Vista, San Diego County, CA 91911	105,481 wet tons (29,144 dry tons or 26440 dry metric tons), based on sum of monthly totals disposed of from January to December 2013 at this landfill.

No biosolids were shipped to or disposed of at a surface disposal site.

No biosolids were disposed of or reused by any other method than those listed above.

15 Includes volatile organic compounds, phenols, base/neutral organic compounds, organophosphorus pesticides, chlorinated pesticides and PCBs.

Table 1B. Biosolids Production for MBC

Table 1B. Annual Biosolids Beneficial Use & Landfill Disposal Summary

2013 Month:	Otay Landfill Beneficial Use[1] (PTL) (wet Tons)	Otay Landfill Beneficial Use[1] (MBC) (wet Tons)	Otay Landfill Total (wet Tons)	Cullison Farms, Yuma, AZ Beneficial Use[2] (wet Tons)	Norris Farm Aztec, Yuma County, AZ Beneficial Use[2] (wet Tons)	Desert Ridge Farms Yuma, AZ Beneficial Use[2] (wet Tons)	Butler Diamond Farms Yuma, AZ Beneficial Use[2] (wet Tons)	Total (wet Tons)	%TS	Total Dry Tons	Total Biosolids (dry metric tons)
January		7,445.50	7,445.50	1,886.30				9,331.80	28.7	2,678.23	2,429.69
February		6,070.42	6,070.42	1,611.33				7,681.75	28.2	2,166.25	1,965.23
March		5,543.38	5,543.38	2,150.86				7,694.24	28.4	2,185.16	1,982.38
April		6,573.66	6,573.66	2,376.63				8,950.29	27.2	2,434.48	2,208.56
May		7,942.22	7,942.22	2,458.98				10,401.20	27.4	2,849.93	2,585.46
June		6,536.41	6,536.41	1,748.07				8,284.48	28.2	2,336.22	2,119.42
July		9,602.98	9,602.98	740.86				10,343.84	27.0	2,792.84	2,533.66
August		10,405.05	10,405.05	1,163.38				11,568.43	27.2	3,146.61	2,854.61
September	209.26	9,460.10	9,669.36	1,278.40				10,947.76	27.4	2,999.69	2,721.32
October	469.62	9,636.05	10,105.67	1,568.58				11,674.25	27.0	3,152.05	2,859.54
November	2,962.86	9,980.78	12,943.64	1,060.13				14,003.77	27.7	3,879.04	3,519.07
December	2,760.72	9,882.48	12,643.20	519.01				13,162.21	27.9	3,672.26	3,331.47
Total:	6,402.46	99,079.03	105,481.49	18,562.53	0.00	0.00	0.00	124,044.02		34,292.76	31,110.39
Monthly Average:		8,256.59	8,790.12	1,546.88				10,337.00	27.7	3,068.50	2,592.53

[1] beneficial use as Alternative Daily Cover. Point Loma (PTL) or Metro Biosolids Center (MBC)

[2] beneficial use in Land Application.

Table 1C. 2013 Biosolids Land Application

2013 Month	%TS	Desert Ridge , Yuma City, AZ wet tons	Desert Ridge , Yuma City, AZ dry tons	Norris, Yuma City, AZ wet tons	Norris, Yuma City, AZ dry tons	Cullison, Yuma County, AZ wet tons	Cullison, Yuma County, AZ dry tons	Butler Diamond, Yuma County, AZ wet tons	Butler Diamond, Yuma County, AZ dry tons	Total Monthly wet tons	Total Monthly dry tons	Total Metric dry tons
January	28.7		0.00		0.00	1,886.30	541.37		0.00	1,886.30	541.37	491.13
February	28.2		0.00		0.00	1,611.33	454.40		0.00	1,611.33	454.40	412.23
March	28.4		0.00		0.00	2,150.86	610.84		0.00	2,150.86	610.84	554.16
April	27.2		0.00		0.00	2,376.63	646.44		0.00	2,376.63	646.44	586.45
May	27.4		0.00		0.00	2,458.98	673.76		0.00	2,458.98	673.76	611.24
June	28.2		0.00		0.00	1,748.07	492.96		0.00	1,748.07	492.96	447.21
July	27.0		0.00		0.00	740.86	200.03		0.00	740.86	200.03	181.47
August	27.2		0.00		0.00	1,163.38	316.44		0.00	1,163.38	316.44	287.07
September	27.4		0.00		0.00	1,278.40	350.28		0.00	1,278.40	350.28	317.78
October	27.0		0.00		0.00	1,568.58	423.52		0.00	1,568.58	423.52	384.21
November	27.7		0.00		0.00	1,060.13	293.66		0.00	1,060.13	293.66	266.40
December	27.9		0.00		0.00	519.01	144.80		0.00	519.01	144.80	131.37
2013 Totals	Avg =27.7	0.00	0.00	0.00	0.00	18,562.53	5,148.50	0.00	0.00	18,562.53	5,148.50	4,670.72

Table 1D. Other Solids disposal (weights are gross wet weight)

2013 Month:	Copper Mountain Landfill **Scum (Tons)**	Otay Landfill **Scum (Tons)**	South Yuma Landfill **Scum (Tons)**	Otay Landfill **Digester Cleanings (Tons)**	Miramar Landfill **Grit (Tons)**	Miramar Landfill **Rags & Screenings (Tons)**
January	41.67			0.00	156.80	595.55
February	28.06			0.00	136.18	531.11
March	35.52			0.00	165.59	582.01
April	20.29			0.00	162.29	598.43
May	23.87	8.47		0.00	196.74	600.85
June	27.42	8.47		0.00	31.98	598.15
July	18.95			0.00	154.01	591.54
August	22.33			0.00	178.97	675.43
September	27.13			209.26	181.25	596.34
October	5.21			469.62	6.26	138.77
November	29.82			2,962.86	146.88	502.60
December	30.82			2,760.72	138.59	450.11
Total:	311.09	16.94		6,402.46	1,655.54	6,460.89
Average:	**25.92**	**8.47**		**533.54**	**137.96**	**538.41**

Point Loma Annual Monitoring Report
Solids Report – TOTALS

From 01-JAN-2013 to 31-DEC-2013

Month	Pt. Loma Raw sludge Gallons	Dry Tons	Pt.Loma Digested Sludge Gallons	Dry Tons	MBC Combined Centrate Gallons	Dry Tons	MBC Dewatered Sludge Wet Tons	Dry Tons
01	38,490,803	6,482	38,490,810	3,378	68,532,626	820	9,332	2,679
02	33,988,986	5,669	33,190,253	2,972	57,703,102	686	7,682	2,168
03	37,077,555	6,404	37,077,435	3,217	67,369,334	843	7,694	2,188
04	35,079,165	6,425	35,079,165	3,316	64,470,543	932	8,950	2,432
05	36,950,497	6,561	33,055,754	3,120	67,627,455	1,201	10,401	2,850
06	33,721,378	6,231	33,721,378	3,473	59,726,565	1,345	8,285	2,335
07	38,685,128	6,167	38,685,128	3,908	72,394,328	1,490	10,344	2,793
08	40,229,325	6,530	40,229,325	3,805	73,975,551	1,254	11,568	3,147
09	36,382,612	6,170	36,385,231	3,543	72,123,348	1,163	10,739	2,941
10	39,227,706	6,496	39,227,706	3,656	71,616,026	1,021	11,205	3,026
11	39,242,189	6,590	39,242,189	3,755	73,478,457	1,042	11,041	3,062
12	35,520,140	6,122	35,520,140	3,505	64,344,821	727	10,402	2,902
avg	37,049,624	6,321	36,658,710	3,471	67,780,180	1,044	9,803	2,710
sum	444,595,484	75,848	439,904,514	41,648	813,362,156	12,524	117,642	32,523

Point Loma Annual Monitoring Report
Solids Report - Daily Averages by Month

From 01-JAN-2013 to 31-DEC-2013

Year Month	Pt. Loma Raw sludge Gallons	%TS	Dry Tons	Pt.Loma Digested Sludge Gallons	%TS	Dry Tons	MBC Combined Centrate Gallons	%TS	Dry Tons	MBC Dewatered Sludge Wet Tons	%TS	Dry Tons
13-01	1,241,639	4.0	208	1,241,639	2.1	109	2,210,730	0.29	26.4	301	28.7	86.4
13-02	1,213,892	4.0	207	1,185,366	2.1	105	2,060,825	0.29	25.4	274	28.2	77.4
13-03	1,196,050	4.1	214	1,196,046	2.1	102	2,173,204	0.30	27.2	248	28.4	70.6
13-04	1,169,306	4.4	212	1,169,306	2.3	111	2,149,018	0.35	31.1	298	27.2	81.1
13-05	1,191,952	4.3	212	1,066,315	2.3	101	2,181,531	0.43	37.7	336	27.4	91.9
13-06	1,124,046	4.4	204	1,124,046	2.5	112	1,990,886	0.54	43.2	276	28.2	77.8
13-07	1,247,907	3.8	200	1,247,907	2.4	126	2,335,301	0.49	48.1	334	27.0	90.1
13-08	1,297,720	3.9	211	1,297,720	2.3	123	2,386,308	0.41	40.4	373	27.2	101.5
13-09	1,212,754	4.1	204	1,212,841	2.3	117	2,404,112	0.39	38.8	358	27.4	98.0
13-10	1,265,410	4.0	209	1,265,410	2.2	118	2,310,194	0.34	33.0	361	27.0	97.6
13-11	1,308,073	4.0	220	1,308,073	2.3	125	2,449,282	0.34	34.8	368	27.7	102.1
13-12	1,145,811	4.1	200	1,145,811	2.4	113	2,075,639	0.27	23.7	336	27.9	93.6
avg	1,217,880	4.1	208	1,205,040	2.3	114	2,227,253	0.37	34.1	322	27.7	89.0

Note: A ton is a “short ton” or 2000 lbs of dry solids.
The mechanical condition of the cake pumps and the variability of sludge concentrations can affect the overall accuracies of these reported values.

Enclosure 7 Results of other analyses of dewatered biosolids for 2013

Tables showing the analyses for metals (including priority pollutants), pH, total and volatile solids, pesticides& PCBs, and organic priority pollutant compounds of sewage biosolids samples taken in 2013.

POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Sample ID:	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050
Aluminum	4	MG/KG	4950	5080	5290	4810	5970	4350
Antimony	.5	MG/KG	2.6	3.7	ND	ND	ND	ND
Arsenic	.68	MG/KG	4.15	4.32	4.22	6.39	5.25	4.65
Barium	.05	MG/KG	285	254	337	272	358	284
Beryllium	.02	MG/KG	0.11	0.10	0.11	ND	0.11	0.09
Cadmium	.1	MG/KG	1.1	1.3	1.2	0.8	1.2	1.4
Chromium	.3	MG/KG	45	47	50	49	63	54
Cobalt	.2	MG/KG	1.7	2.2	2.0	1.9	2.5	1.3
Cyanide, Total	.1	MG/KG	NR	21.0	NR	NR	2.6	NR
Copper	.4	MG/KG	658	656	704	566	746	622
Iron	20	MG/KG	93200	80200	82800	71300	93100	90500
Lead	2	MG/KG	17	19	20	13	17	18
Manganese	.2	MG/KG	348	346	316	283	326	295
Mercury	.2	MG/KG	1.1	1.2	1.6	1.4	1.3	1.5
Molybdenum	.1	MG/KG	15	14	16	12	20	19
Nickel	.3	MG/KG	36	36	32	32	41	44
Selenium	.47	MG/KG	4.50	4.52	4.23	6.28	4.91	7.63
Silver	.07	MG/KG	4	9	5	3	5	4
Thallium	1	MG/KG	ND	ND	ND	3	ND	2
Vanadium	.2	MG/KG	26	32	28	23	27	23
Zinc	.5	MG/KG	842	784	897	912	1180	937
Sulfides-Reactive	11	MG/KG	78	89	91	117	101	92
Sulfides-Total	500	MG/KG	15600	16700	15200	22200	19700	21100
Total Nitrogen	1.1	WT%	4.89	4.93	4.95	4.92	4.91	4.89
Total Kjeldahl Nitrogen	.04	WT%	NR	4.54	NR	NR	4.57	NR
Total Volatile Solids		WT%	58.1	59.2	56.9	60.6	57.4	58.9
Total Solids		WT%	28.7	27.8	28.3	27.1	26.9	26.4
pH		PH	7.89	7.83	7.92	7.78	7.72	7.79

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Sample ID:	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Aluminum	4	MG/KG	5330	4820	4500	4090	4440	3500
Antimony	.5	MG/KG	ND	ND	3.7	1.8	4.1	2.0
Arsenic	.68	MG/KG	4.03	3.25	3.08	2.83	3.80	3.58
Barium	.05	MG/KG	186	54	283	98	392	331
Beryllium	.02	MG/KG	0.07	0.05	0.07	ND	0.06	0.09
Cadmium	.1	MG/KG	1.4	1.4	1.2	1.1	1.5	1.1
Chromium	.3	MG/KG	50	41	34	33	39	36
Cobalt	.2	MG/KG	2.8	3.6	6.2	6.9	7.1	5.9
Cyanide, Total	.1	MG/KG	NR	1.7	NR	1.5	NR	NR
Copper	.4	MG/KG	741	656	684	677	688	627
Iron	20	MG/KG	91000	88300	101000	95200	101000	81600
Lead	2	MG/KG	20	20	29	27	29	18
Manganese	.2	MG/KG	274	240	245	252	276	233
Mercury	.2	MG/KG	1.9	1.0	1.1	1.1	1.0	1.1
Molybdenum	.1	MG/KG	20	19	18	21	20	14
Nickel	.3	MG/KG	35	31	35	37	39	34
Selenium	.47	MG/KG	5.85	4.11	5.69	4.58	4.22	4.44
Silver	.07	MG/KG	6	4	6	5	7	5
Thallium	1	MG/KG	2	ND	3	ND	2	5
Vanadium	.2	MG/KG	31	44	51	60	63	52
Zinc	.5	MG/KG	923	972	906	839	914	742
Sulfides-Reactive	11	MG/KG	126	148	116	35	24	133
Sulfides-Total	500	MG/KG	27100	23500	21800	22400	10200	26800
Total Nitrogen	1.1	WT%	4.67	5.13	4.99	5.06	5.02	5.20
Total Kjeldahl Nitrogen	.04	WT%	NR	4.74	NR	5.07	NR	NR
Total Volatile Solids		WT%	60.8	60.6	57.6	60.9	60.8	59.9
Total Solids		WT%	26.8	26.8	26.7	26.6	27.4	27.5
pH		PH	7.84	7.55	7.54	7.54	7.69	7.54

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT

Total Nitrogen Analysis

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013	31-JUL-2013
Sample:	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050	P669948
Total Nitrogen	1.1	WT%	4.89	4.93	4.95	4.92	4.91	4.89	4.67

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Sample:	MDL	Units	P674861	P677800	P682539	P687315	P690536
Total Nitrogen	1.1	WT%	5.13	4.99	5.06	5.02	5.20

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT

Radioactivity

2013 Annual

ANALYZED BY: Truesdail Labs Inc.

Source	Sample Date	Sample ID	Gross Alpha Radiation	Gross Beta Radiation
PLE	05-FEB-2013	P649601	1.9±7.6	25.8±7.6
PLE	07-MAY-2013	P661078	-1.6±10.0	33.5±14.0
PLE	06-AUG-2013	P671076	-3.1±8.6	24.9±9.1
PLE	01-OCT-2013	P677625	-2.4±6.9	31.9±9.3
PLE	ANNUAL	AVERAGE	-1.3±8.3	29.0±10.0
PLR	05-FEB-2013	P649607	1.2±7.3	34.0±8.8
PLR	07-MAY-2013	P661084	4.3±10.5	31.0±8.8
PLR	06-AUG-2013	P671082	2.0±8.6	30.6±10.1
PLR	01-OCT-2013	P677631	7.1±8.6	33.4±8.4
PLR	ANNUAL	AVERAGE	3.7±8.7	32.3±9.0
MBC_COMBCN	05-FEB-2013	P649618	-1.2±8.9	52.9±13.0
MBC_COMBCN	07-MAY-2013	P661095	-3.4±14.0	40.4±18.0
MBC_COMBCN	06-AUG-2013	P671093	9.8±13.0	45.1±16.0
MBC_COMBCN	01-OCT-2013	P677642	0.4±7.7	56.2±12.0
MBC_COMBCN	ANNUAL	AVERAGE	1.4±10.9	48.7±14.8

Units in picocuries per Liter (pCi/L)

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_COMBCN = Combined Sludge Centrate
MBC_NC_DSL = Combined North City Digested Sludge Line
MBC_NC_RSL = Combined North City Raw Sludge Line

POINT LOMA WASTEWATER TREATMENT PLANT

Radioactivity

2013 Annual

ANALYZED BY: Truesdail Labs Inc.

Source	Sample Date	Sample ID		Gross Alpha Radiation	Gross Beta Radiation
MBCDEWCN	28-FEB-2013	P653392		2450±3900	10200±2100
MBCDEWCN	31-MAY-2013	P664036		494±405	8790±1950
MBCDEWCN	31-AUG-2013	P674861		9820±3750	8750±2300
MBCDEWCN	31-OCT-2013	P682539		2350±3800	8640±2000
AVERAGE				3779±2964	9095±2088

Units in picocuries/liter (pCi/kg)

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_COMBCN= Metro Biosolids Center Combined Sludge Centrate.

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	1000	NG/KG	10600	ND	19600	ND	19300
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	9030	ND	18400	ND	17800
o,p-DDE	1100	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	18300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	ND	ND	14700	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	8630	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	19630	0	38000	0	37100
Chlordane + related cmpds.	3200	NG/KG	0	0	33000	0	0
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	19630	0	79630	0	37100

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			30-JUN-2013	31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013
Analyte	MDL	Units	P667050	P669948	P674861	P677800	P682539
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	4300	ND	ND	ND
p,p-DDE	1000	NG/KG	41500	38300	18800	ND	ND
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11300	8360	ND	ND
o,p-DDE	1100	NG/KG	ND	5440	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	31600	15000	12300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	17600	8960	13100	ND	2950
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	14200	11000	1810	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	41500	59340	27160	0	0
Chlordane + related cmpds.	3200	NG/KG	49200	23960	25400	0	2950
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	104900	94300	54370	0	2950

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	
Date			30-NOV-2013	31-DEC-2013	Annual
Analyte	MDL	Units	P687315	P690536	Average
Aldrin	10000	NG/KG	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	358
p,p-DDE	1000	NG/KG	9580	15100	14398
p,p-DDT	2200	NG/KG	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11600	6374
o,p-DDE	1100	NG/KG	ND	ND	453
o,p-DDT	800	NG/KG	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	6433
Gamma (trans) Chlordane	800	NG/KG	ND	ND	4776
Alpha Chlordene		NG/KG	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	2970
Cis Nonachlor	1600	NG/KG	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0
DDT and derivatives	2200	NG/KG	9580	26700	21584
Chlordane + related cmpds.	3200	NG/KG	0	0	11209
Polychlorinated biphenyls	20000	NG/KG	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	9580	26700	35763

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

Tributyl Tin (Sludge)

2013 Annual

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2013	31-OCT-2013
Analyte			P664036	P682539
============	====	=====	===========	===========
Monobutyltin	4000	UG/KG	ND	ND
Tributyltin	2600	UG/KG	ND	ND

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

Herbicide Analysis

2013 Annual

Source:			MBCDEWCN	MBCDEWCN
Date:			31-MAY-2013	31-OCT-2013
Sample:	MDL	Units	P664036	P682539
2,4-Dichlorophenoxyacetic acid	.0696	MG/KG	ND	ND
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645663	P649601	P654931	P658831	P661078	P664851
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.05	DNQ0.05	ND	DNQ0.12	ND	0.55
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	<0.03	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667691	P671076	P675373	P677625	P683396	P686942
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.19	DNQ0.13	ND	ND	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645666	P649607	P654934	P658834	P661084	P664854
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.04	ND	ND	ND	ND	0.50
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	DNQ0.1	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667694	P671082	P675376	P677631	P683399	P686945
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.15	DNQ0.13	ND	DNQ0.04	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	DNQ0.1
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	DNQ0.03	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_COMBCN	MBC_COMBCN
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661095	P677642
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			MBC_NC_DSL	MBC_NC_DSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661149	P677696
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_NC_RSL	MBC_NC_RSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661147	P677694
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			RAW COMP	RAW COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661120	P677667
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			DIG COMP	DIG COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661134	P677681
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	DNQ2.5	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2013	31-OCT-2013
Analyte	MDL	Units	P664036	P682539
Demeton O	67	UG/KG	ND	ND
Demeton S	27	UG/KG	ND	ND
Diazinon		UG/KG	ND	DNQ16.1
Guthion	33	UG/KG	ND	ND
Malathion	20	UG/KG	ND	ND
Parathion	20	UG/KG	ND	ND
Chlorpyrifos		UG/KG	DNQ64.4	248.0
Coumaphos	33	UG/KG	ND	ND
Dichlorvos	17	UG/KG	ND	ND
Dimethoate	27	UG/KG	ND	ND
Disulfoton	20	UG/KG	ND	ND
Stirophos	20	UG/KG	ND	ND
Thiophosphorus Pesticides	33	UG/KG	0.0	0.0
Demeton -O, -S	67	UG/KG	0.0	0.0
Total Organophosphorus Pesticides	67	UG/KG	0.0	248.0

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
Base/Neutrals

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013
Analyte	MDL	Units	P653392	P664036	P674861	P682539
Acenaphthene	330	UG/KG	ND	ND	ND	ND
Acenaphthylene	330	UG/KG	ND	ND	ND	ND
Anthracene	330	UG/KG	ND	ND	ND	ND
Benzidine	330	UG/KG	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[k]fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[a]anthracene	330	UG/KG	ND	ND	ND	ND
Benzo[a]pyrene	330	UG/KG	ND	ND	ND	ND
Benzo[g,h,i]perylene	330	UG/KG	ND	ND	ND	ND
4-Bromophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	330	UG/KG	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
2-Chloronaphthalene		UG/KG	ND	ND	ND	ND
Chrysene	330	UG/KG	ND	ND	ND	ND
Dibenzo(a,h)anthracene	330	UG/KG	ND	ND	ND	ND
Butyl benzyl phthalate	330	UG/KG	ND	845	ND	1640
Di-n-butyl phthalate	330	UG/KG	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	330	UG/KG	77500	81200	83300	82600
Diethyl phthalate	330	UG/KG	ND	ND	ND	ND
Dimethyl phthalate	330	UG/KG	ND	ND	ND	ND
Di-n-octyl phthalate	330	UG/KG	ND	ND	ND	1100
3,3-Dichlorobenzidine	330	UG/KG	ND	ND	ND	ND
2,4-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
2,6-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
1,2-Diphenylhydrazine		UG/KG	ND	ND	ND	ND
Fluoranthene	330	UG/KG	ND	ND	<330	ND
Fluorene	330	UG/KG	ND	ND	ND	ND
Hexachlorobenzene	330	UG/KG	ND	ND	ND	ND
Hexachlorobutadiene	330	UG/KG	ND	ND	ND	ND
Hexachlorocyclopentadiene	330	UG/KG	ND	ND	ND	ND
Hexachloroethane	330	UG/KG	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	330	UG/KG	ND	ND	ND	ND
Isophorone	330	UG/KG	ND	ND	ND	ND
Naphthalene	330	UG/KG	ND	681	ND	ND
Nitrobenzene	330	UG/KG	ND	ND	ND	ND
N-nitrosodimethylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodi-n-propylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodiphenylamine	330	UG/KG	ND	ND	ND	ND
Phenanthrene	330	UG/KG	ND	356	ND	459
Pyrene	330	UG/KG	ND	ND	ND	ND
1,2,4-Trichlorobenzene	330	UG/KG	ND	ND	ND	ND
1,3-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
1,2-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
1,4-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
PolyNuc. Aromatic Hydrocarbons	330	UG/KG	0	356	0	459
Base/Neutral Compounds	330	UG/KG	77500	83082	83300	85799
Dichlorobenzenes	330	UG/KG	0	0	0	0

Additional Analytes Determined;

Analyte	MDL	Units	P653392	P664036	P674861	P682539
Benzo[e]pyrene		UG/KG	ND	ND	ND	ND
Biphenyl		UG/KG	ND	852	ND	296
2,6-Dimethylnaphthalene		UG/KG	1640	1840	1510	1790
1-Methylnaphthalene		UG/KG	ND	ND	ND	497
1-Methylphenanthrene		UG/KG	ND	ND	ND	ND
2-Methylnaphthalene		UG/KG	462	653	367	573
2,3,5-Trimethylnaphthalene		UG/KG	ND	ND	ND	ND
Perylene	330	UG/KG	ND	ND	ND	ND
Pyridine		UG/KG	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Phenolics

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013	
Analyte	MDL	Units	P653392	P664036	P674861	P682539	Average
2-Chlorophenol	330	UG/KG	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dichlorophenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dimethylphenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dinitrophenol	330	UG/KG	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	800	UG/KG	ND	ND	ND	ND	ND
2-Nitrophenol	330	UG/KG	ND	ND	ND	ND	ND
4-Nitrophenol	800	UG/KG	ND	ND	ND	ND	ND
Pentachlorophenol	800	UG/KG	ND	ND	ND	ND	ND
Phenol	330	UG/KG	5360	6580	3890	3450	4820
2,4,6-Trichlorophenol	330	UG/KG	ND	ND	ND	ND	ND
Total Chlorinated Phenols	800	UG/KG	0	0	0	0	0
Total Non-Chlorinated Phenols	800	UG/KG	6550	7572	6880	5020	6506
Phenols	800	UG/KG	6550	7572	6880	5020	6506

Additional Analytes Determined;

Analyte	MDL	Units	P653392	P664036	P674861	P682539	Average
2-Methylphenol	330	UG/KG	ND	ND	1570	ND	393
4-Methylphenol(3-MP is unresolved)	330	UG/KG	1190	992	1420	1570	1293
2,4,5-Trichlorophenol	800	UG/KG	ND	ND	ND	ND	ND
Phenols average	800	UG/KG	487	598	354	314	438

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Analyte	MDL	Units	P653392	P657413	P660574	P664036	P667050
Acrolein	6.4	UG/KG	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	DNQ4.9	ND
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	DNQ4.3	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	122	93.7	126	90.3	87.0
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	184	156	183	148	156
Methylene chloride	3.5	UG/KG	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	110	64.1	76.1	43.5	51.9
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	416	314	385.1	281.8	294.9

Additional Analytes Determined;

Analyte	MDL	Units	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Acetone	31.4	UG/KG	26200	11800	13600	14200	15200
Allyl chloride	3.6	UG/KG	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	7030	2560	3050	3270	2880
Carbon disulfide	4.7	UG/KG	99.5	89.6	67.4	90.9	76.5
Chloroprene	3.1	UG/KG	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	30.1	28.9	30.1	24.6	ND
Methyl Iodide	3.8	UG/KG	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	49.6	40.4	51.6	33.9	32.9
Styrene	1.7	UG/KG	30.9	33.0	30.5	22.2	25.1
meta,para xylenes	4.2	UG/KG	96.3	82.8	106.0	70.1	63.2
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	ND	ND	ND	ND

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Acrolein	6.4	UG/KG	ND	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	ND	DNQ4.6
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	DNQ4.2	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	DNQ16.0	DNQ10.9
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	DNQ3.3	ND
1,4-Dichlorobenzene	1.5	UG/KG	77.7	78.9	88.2	DNQ27.1	62.4	53.6
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	170	191	186	222	248	200
Methylene chloride	3.5	UG/KG	ND	DNQ15.8	20.7	DNQ8.0	ND	DNQ5.1
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	52.9	52.8	71.6	72.8	109.0	60.5
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	300.6	322.7	366.5	294.8	419.4	314.1

Additional Analytes Determined;

Analyte	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Acetone	31.4	UG/KG	22100	21200	29900	19300	32800	27700
Allyl chloride	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	6260	4800	10900	2530	3400	3330
Carbon disulfide	4.7	UG/KG	93.8	90.6	203.0	123.0	166.0	127.0
Chloroprene	3.1	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	19.4	DNQ16.7	33.6	26.5	23.4	17.2
Methyl Iodide	3.8	UG/KG	ND	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	40.0	35.9	52.4	46.7	34.7	30.9
Styrene	1.7	UG/KG	23.5	32.2	61.9	45.9	38.8	36.7
meta,para xylenes	4.2	UG/KG	79.1	71.7	97.0	91.0	71.4	59.6
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	DNQ13.2	ND	ND	ND	25.3

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgables

External Laboratory TestAmerica
Annual 2013

Source			MBCDEWCN
Date			31-JAN-2013
Analyte	MDL	Units	P649993
Acrolein		UG/KG	NA*
Acrylonitrile		UG/KG	NA*
Benzene	92.6	UG/KG	ND
Bromodichloromethane	92.6	UG/KG	ND
Bromoform	92.6	UG/KG	ND
Bromomethane	92.6	UG/KG	ND
Carbon tetrachloride	92.6	UG/KG	ND
Chlorobenzene	92.6	UG/KG	ND
Chloroethane	231	UG/KG	ND
Chloroform	92.6	UG/KG	ND
Chloromethane	92.6	UG/KG	ND
Dibromochloromethane	92.6	UG/KG	ND
1,2-Dichlorobenzene	92.6	UG/KG	ND
1,3-Dichlorobenzene	92.6	UG/KG	ND
1,4-Dichlorobenzene	92.6	UG/KG	ND
Dichlorodifluoromethane	92.6	UG/KG	ND
1,1-Dichloroethane	92.6	UG/KG	ND
1,2-Dichloroethane	92.6	UG/KG	ND
1,1-Dichloroethene	92.6	UG/KG	ND
trans-1,2-dichloroethene	92.6	UG/KG	ND
1,2-Dichloropropane	92.6	UG/KG	ND
cis-1,3-dichloropropene	92.6	UG/KG	ND
trans-1,3-dichloropropene	92.6	UG/KG	ND
Ethylbenzene	92.6	UG/KG	ND
Methylene chloride	463	UG/KG	626
1,1,2,2-Tetrachloroethane	92.6	UG/KG	ND
Tetrachloroethene	92.6	UG/KG	ND
Toluene	92.6	UG/KG	ND
1,1,1-Trichloroethane	92.6	UG/KG	ND
1,1,2-Trichloroethane	231	UG/KG	ND
Trichloroethene	92.6	UG/KG	ND
Trichlorofluoromethane	92.6	UG/KG	ND
Vinyl chloride	92.6	UG/KG	ND
1,2,4-Trichlorobenzene	92.6	UG/KG	ND
Halomethane Purgeable Compounds	92.6	UG/KG	0.0
Purgeable Compounds	92.6	UG/KG	626

Additional Analytes Determined;

Acetone	2310	UG/KG	ND
Allyl chloride		UG/KG	NA*
Benzyl chloride		UG/KG	NA*
2-Butanone	2310	UG/KG	ND
Carbon disulfide	231	UG/KG	ND
Chloroprene		UG/KG	NA*
1,2-Dibromoethane	92.6	UG/KG	ND
Isopropylbenzene	92.6	UG/KG	ND
Methyl Iodide		UG/KG	NA*
Methyl methacrylate		UG/KG	NA*
Methyl tert-butyl ether	92.6	UG/KG	ND
2-Nitropropane		UG/KG	NA*
ortho-xylene	231	UG/KG	ND
Styrene	92.6	UG/KG	ND
meta,para xylenes	231	UG/KG	ND
2-Chloroethylvinyl ether		UG/KG	NA*
4-Methyl-2-pentanone	92.6	UG/KG	ND

* = Not Analyzed by the external lab (TestAmerica)

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Analyte	MDL	Units	Average
Acrolein	6.4	UG/KG	ND
Acrylonitrile	3.9	UG/KG	ND
Benzene	2.1	UG/KG	DNQ0.8
Bromodichloromethane	2.2	UG/KG	ND
Bromoform	2.4	UG/KG	ND
Bromomethane	6.9	UG/KG	ND
Carbon tetrachloride	3	UG/KG	ND
Chlorobenzene	1	UG/KG	DNQ0.4
Chloroethane	3.6	UG/KG	ND
Chloroform	2.3	UG/KG	ND
Chloromethane	3.4	UG/KG	ND
Dibromochloromethane	2.4	UG/KG	ND
1,2-Dichlorobenzene	1.5	UG/KG	DNQ2.2
1,3-Dichlorobenzene	1.8	UG/KG	DNQ0.6
1,4-Dichlorobenzene	1.5	UG/KG	DNQ75.6
Dichlorodifluoromethane	5.56	UG/KG	ND
1,1-Dichloroethane	1.9	UG/KG	ND
1,2-Dichloroethane	3.6	UG/KG	ND
1,1-Dichloroethene	5	UG/KG	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND
1,2-Dichloropropane	2.6	UG/KG	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND
Ethylbenzene	1.4	UG/KG	170.3
Methylene chloride	3.5	UG/KG	DNQ56.3
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND
Tetrachloroethene	2.8	UG/KG	ND
Toluene	1.2	UG/KG	63.8
1,1,1-Trichloroethane	3.2	UG/KG	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND
Trichloroethene	2.6	UG/KG	ND
Trichlorofluoromethane	2.2	UG/KG	ND
Vinyl chloride	4.8	UG/KG	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0
Purgeable Compounds	6.9	UG/KG	234.1

Additional Analytes Determined;

Acetone	31.4	UG/KG	19500
Allyl chloride	3.6	UG/KG	ND
Benzyl chloride	4.3	UG/KG	ND
2-Butanone	36.3	UG/KG	4168
Carbon disulfide	4.7	UG/KG	102.3
Chloroprene	3.1	UG/KG	ND
1,2-Dibromoethane	2.5	UG/KG	ND
Isopropylbenzene	1.3	UG/KG	20.9
Methyl Iodide	3.8	UG/KG	ND
Methyl methacrylate	2.4	UG/KG	ND
Methyl tert-butyl ether	3.4	UG/KG	ND
2-Nitropropane	45.8	UG/KG	ND
ortho-xylene	1.9	UG/KG	37.4
Styrene	1.7	UG/KG	31.7
meta,para xylenes	4.2	UG/KG	74.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND
4-Methyl-2-pentanone	9.7	UG/KG	3.2

nd= not detected, NA= not analyzed, NS= not sampled

METROBIOSOLIDS CENTER
Dioxin and Furan Analysis, SW-846 Method 8290

Annual 2013

Analyzed by: Frontier Analytical Laboratories

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013	31-JUL-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050	P669948
2,3,7,8-tetra CDD	.043	NG/KG	DNQ0.58	DNQ0.39	DNQ0.75	ND	DNQ0.68	DNQ0.45	ND
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ2.84	DNQ2.02	DNQ2.62	DNQ3.57	DNQ2.63	DNQ2.56	DNQ2.68
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.54	DNQ1.18	DNQ2.86	DNQ1.35	DNQ1.66	DNQ1.33	DNQ1.42
1,2,3,6,7,8-hexa CDD	.081	NG/KG	16.50	DNQ4.84	24.00	19.20	24.30	20.70	22.70
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	5.88	DNQ2.58	7.40	5.85	8.29	6.11	DNQ6.25
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	261.00	91.70	325.00	296.00	258.00	245.00	216.00
octa CDD	.297	NG/KG	1660.00	1250.00	1910.00	1570.00	1510.00	1360.00	1130.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.40	DNQ3.33	3.83	3.81	3.68	3.53	3.03
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.14	DNQ1.08	DNQ1.32	DNQ1.07	DNQ1.40	DNQ1.23	DNQ1.12
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.14	DNQ1.85	DNQ1.16	DNQ1.38	DNQ1.61	DNQ1.39
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ2.03	DNQ2.06	DNQ2.42	DNQ1.43	DNQ2.45	DNQ1.86	DNQ1.61
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ1.76	DNQ1.92	DNQ1.75	DNQ2.09	DNQ3.06	DNQ1.78	DNQ1.85
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	DNQ0.76	DNQ0.87	DNQ0.83	ND	DNQ0.68	DNQ0.61	DNQ0.58
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.55	DNQ2.26	DNQ2.65	DNQ1.84	DNQ2.71	DNQ2.32	DNQ2.00
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	24.90	24.90	27.70	20.50	23.50	24.50	20.20
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.58	DNQ1.50	DNQ1.64	ND	DNQ1.26	DNQ1.50	DNQ1.37
octa CDF	.155	NG/KG	64.30	67.70	77.20	49.10	73.80	61.30	49.80

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P674861	P677800	P682539	P687315	P690536
2,3,7,8-tetra CDD	.043	NG/KG	ND	DNQ0.47	DNQ0.57	DNQ0.67	DNQ0.63
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ3.72	DNQ2.48	DNQ2.44	DNQ2.92	DNQ3.73
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.55	DNQ1.10	DNQ1.46	DNQ1.65	DNQ1.20
1,2,3,6,7,8-hexa CDD	.081	NG/KG	12.50	9.61	15.90	19.60	16.80
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	DNQ4.33	DNQ3.21	5.44	7.22	DNQ5.58
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	178.00	163.00	204.00	224.00	231.00
octa CDD	.297	NG/KG	1130.00	1070.00	1230.00	1240.00	1150.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.78	3.60	3.68	3.44	3.62
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.23	DNQ1.08	DNQ1.31	DNQ1.33	DNQ1.38
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.25	DNQ1.97	DNQ1.71	DNQ1.12
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ1.95	DNQ1.54	DNQ2.00	DNQ2.04	DNQ1.77
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ2.09	DNQ1.60	DNQ1.80	DNQ1.78	DNQ1.67
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	ND	DNQ0.50	DNQ0.62	DNQ0.64	DNQ0.57
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.64	DNQ1.84	DNQ2.20	DNQ2.30	DNQ2.02
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	22.90	19.30	21.40	23.80	22.40
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.43	DNQ1.11	DNQ1.48	DNQ1.63	DNQ1.58
octa CDF	.155	NG/KG	54.70	46.70	54.40	60.90	57.80

ND = not detected, NA = not analyzed, NS = not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

H. Results of "Title 22" Sludge Hazardous Waste Tests

Title 22 CCR Summary Tables

Concentrations of Title 22 analytes (metals and organics) both on a wet weight and dry weight concentration basis for monthly composite of daily samples of sludge being hauled from the Metro Biosolids Center.

The tables list the TTLC (Total Threshold Limit Concentration) or STLC (Soluble Threshold Limit Concentration) limits in the left column for each analyte.

Definitions:
MBCDEWCN = Metro Biosolids Center dewatered sludge.

2013 POINT LOMA WASTEWATER TREATMENT PLANT ANNUAL REPORT

CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TEST (TITLE 22)

METRO BIOSOLIDS CENTER (MBC)

METALS **WET WEIGHT Concentration (calculated)**

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	500	0.75	1.03	< 0.14	< 0.14	< 0.13	< 0.13	< 0.13	< 0.30	0.99	0.48	1.12	0.55
ARSENIC	500	1.2	1.2	1.2	1.7	1.4	1.2	1.08	2.0	0.8	0.8	1.0	1.0
BARIUM	10000	82	71	95	74	96	75	50	33	76	26	107	91
BERYLLIUM	75	0.032	0.028	0.031	< 0.005	0.030	0.024	0.019	0.030	0.019	< 0.005	0.016	0.025
CADMIUM	100	0.3	0.4	0.3	0.1	0.3	0.4	0.4	0.8	0.3	0.3	0.4	0.3
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	13	13	14	13	17	14	13	25	9	9	11	10
COBALT	8000	0.5	0.6	0.6	0.5	0.7	0.3	0.8	2.2	1.7	1.8	1.9	1.6
COPPER	2500	189	182	199	153	201	164	199	398	183	180	189	172
LEAD	1000	5	5	6	4	5	5	5	12	8	7	8	5
MERCURY	20	0.32	0.33	0.45	0.38	0.35	0.40	0.51	0.61	0.29	0.29	0.23	0.30
MOLYBDENUM	3500	4.2	3.9	4.5	3.4	5.2	5.0	5.2	11.4	4.9	5.5	5.5	4.0
NICKEL	2000	10	10	9	9	11	11	9	19	9	10	11	9
SELENIUM	100	1.3	1.3	1.2	1.7	1.3	2.0	1.6	2.5	1.5	1.2	1.2	1.2
SILVER	500	1	2	1	1	1	1	2	2	2	1	2	1
THALLIUM	700	< 0.29	< 0.28	< 0.28	0.81	< 0.27	0.53	0.54	< 0.61	0.67	< 0.27	0.55	1.38
VANADIUM	2400	7	9	8	6	7	6	8	27	14	16	17	14
ZINC	5000	242	218	254	247	316	247	247	589	242	223	250	204
FLUORIDE	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFIDES-REACTIVE	NA	22	NA	26	32	27	24	34	90	31	9	7	37
SULFIDES-TOTAL	NA	4463	4629	4287	6003	5286	5557	7249	14211	5821	5945	2795	7370
TOTAL SOLIDS (%)		28.7	27.8	28.3	27.1	26.9	26.4	26.8	60.6	26.7	26.6	27.4	27.5

DRY WEIGHT Concentration

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	500	2.6	3.70	< 0.5	< 0.5	< 0.5	< 0.50	< 0.5	< 0.5	3.7	1.8	4.1	2.0
ARSENIC	500	4.2	4.3	4.22	6.39	5.25	4.65	4.0	3.25	3.08	2.8	3.8	3.58
BARIUM	10000	285	254	337	272	356	284	186	54	283	98	392	331
BERYLLIUM	75	0.11	0.10	0.1	< 0.02	0.11	0.09	0.07	0.05	0.07	< 0.02	0.06	0.09
CADMIUM	100	1.10	1.3	1.20	0.2	1.20	1.4	1.4	1.4	1.2	1.1	1.5	1.1
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	45.2	46.9	50.3	49.1	62.5	53.9	49.7	40.8	33.6	33.4	38.6	36
COBALT	8000	1.7	2.20	2	1.90	2.50	1.3	2.8	3.6	6.2	6.9	7.1	5.9
COPPER	2500	658	656	704	566	746	622	741	656	684	677	688	627
LEAD	1000	17	19	20	13	17	18	20	20	29	27	29	18
MERCURY	20	1.10	1.2	1.60	1.40	1.30	1.5	1.9	1.0	1.1	1.1	0.9	1.1
MOLYBDENUM	3500	14.8	14.2	16	12.4	19.5	18.8	19.5	18.8	18.3	20.8	19.9	14.4
NICKEL	2000	35.8	35.9	31.5	31.6	41	43.5	35.4	31.3	35.2	36.6	38.8	33.7
SELENIUM	100	4.50	4.52	4.2	6.28	4.9	7.63	5.9	4.11	5.7	4.6	4.2	4.44
SILVER	500	4.29	8.89	5.22	3.09	5.34	4.38	5.77	4.03	5.75	5.27	6.67	4.69
THALLIUM	700	< 1	< 1	< 1	3	< 1	2	2	< 1	2.5	< 1	2	5
VANADIUM	2400	25.8	32.2	28.4	23.4	26.5	22.8	31.3	44	50.8	59.8	63.4	52.0
ZINC	5000	842	784	897	912	1175	937	923	972	906	839	914	742
FLUORIDE	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFIDES-REACTIVE	NA	78	89	91	117	101	92	126	148	116	35	24	133
SULFIDES-TOTAL	NA	15550	16650	15150	22150	19650	21050	27050	23450	21800	22350	10200	26800

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

NA = Not Analyzed, NS = Not Sampled * = The total concentration is less than 10 times the the STLC, therefore by definition this substance is below hazardous concentrations.

ORGANICS

WET WEIGHT Concentration (calculated)

	TTLC	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
	Wet wt	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
ANALYTE	mg/Kg	P649993	P653392	P657413	P660574	P664036	P667050	P669948	P674861	P677800	P682539	P687315	P690536
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	0.009	nd	nd	0.013	0.002	0.015	nd	0.001	nd	nd
DDT,DDE,DDD	1.0	0	nd	0.0113	nd	0.0108	0.0106	0.0043	0.0182	nd	nd	0.0027	0.0083
2,4-DCPAA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	nd	NA	NA
DIELDRIN	8.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ENDRIN	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
HEPTACHLOR	4.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
KEPONE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
METHOXYCHLOR	100	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MIREX	21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
PENTACHLOROPHENOL	17	NA	nd	NA	NA	NA	NA	NA	nd	NA	nd	NA	NA
PCBs (TOTAL)	50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOXAPHENE	5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROETHENE	2040	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	nd	NA	NA	NA	NA	NA	NA	nd	nd	NA	NA
TOTAL SOLIDS (%)		28.7	27.8	28.3	27.1	26.9	26.4	26.8	60.6	26.7	26.6	27.4	27.5
pH	>2-<12	7.89	7.83	7.92	7.78	7.72	7.79	7.84	7.55	7.54	7.54	7.69	7.54

DRY WEIGHT Concentration

	TTLC	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
	Wet wt	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
ANALYTE	mg/Kg	P649993	P653392	P657413	P660574	P664036	P667050	P669948	P674861	P677800	P682539	P687315	P690536
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	0.033	nd	nd	0.049	0.006	0.025	nd	0.003	nd	nd
DDT,DDE,DDD	1.0	0.020	nd	0.040	nd	0.040	0.040	0.016	0.03	nd	nd	0.01	0.03
2,4-DCPAA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	nd	NA	NA
DIELDRIN	8.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ENDRIN	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
HEPTACHLOR	4.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
KEPONE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
METHOXYCHLOR	100	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MIREX	21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
PENTACHLOROPHENOL	17	NA	nd	NA	NA	NA	NA	NA	nd	NA	nd	NA	NA
PCBs (TOTAL)	50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOXAPHENE	5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROETHENE	2040	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	nd	NA	NA	NA	NA	NA	NA	nd	nd	NA	NA

TTLC = Total Threshold Limit Concentration   STLC = Soluble Threshold Limit Concentration

ANALYTE	STLC Wet wt mg/L	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	15	*	*	*	*	*	*	*	*	*	*	*	*
ARSENIC	5.0	*	*	*	*	*	*	*	*	*	*	*	*
BARIUM	100	*	*	*	*	*	*	*	*	*	*	*	*
BERYLLIUM	0.75	*	*	*	*	*	*	*	*	*	*	*	*
CADMIUM	1.0	*	*	*	*	*	*	*	*	*	*	*	*
CHROMIUM(VI)	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	560	*	*	*	*	*	*	*	*	*	*	*	*
COBALT	80	*	*	*	*	*	*	*	*	*	*	*	*
COPPER	25	*	*	*	*	*	*	*	*	*	*	*	*
LEAD	5.0	*	*	*	*	*	*	*	*	*	*	*	*
MERCURY	0.2	*	*	*	*	*	*	*	*	*	*	*	*
MOLYBDENUM	350	*	*	*	*	*	*	*	*	*	*	*	*
NICKEL	20	*	*	*	*	*	*	*	*	*	*	*	*
SELENIUM	1.0	*	*	*	*	*	*	*	*	*	*	*	*
SILVER	5.0	*	*	*	*	*	*	*	*	*	*	*	*
THALLIUM	7.0	*	*	*	*	*	*	*	*	*	*	*	*
VANADIUM	24	*	*	*	*	*	*	*	*	*	*	*	*
ZINC	250	*	*	*	*	*	*	*	*	*	*	*	*

* = The total concentrations are less than 10 times the the STLC, this substance is below STLC limits by definition.

WASTE EXTRACTION TEST - ORGANICS

ANALYTE	STLC Wet wt mg/L	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P575132	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ALDRIN	0.14	*	*	*	*	*	*	*	*	*	*	*	*
CHLORDANE	0.25	*	*	*	*	*	*	*	*	*	*	*	*
DDT,DDE,DDD	0.1	*	*	*	*	*	*	*	*	*	*	*	*
2,4-DCPAA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	*	NA	NA
DIELDRIN	0.8	*	*	*	*	*	*	*	*	*	*	*	*
ENDRIN	0.02	*	*	*	*	*	*	*	*	*	*	*	*
HEPTACHLOR	0.47	*	*	*	*	*	*	*	*	*	*	*	*
KEPONE	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	0.4	*	*	*	*	*	*	*	*	*	*	*	*
METHOXYCHLOR	10	*	*	*	*	*	*	*	*	*	*	*	*
MIREX	2.1	*	*	*	*	*	*	*	*	*	*	*	*
PENTACHLOROPHENOL	1.7	NA	*	NA	NA	*	NA	NA	*	NA	*	NA	NA
PCBs (TOTAL)	5	*	*	*	*	*	*	*	*	*	*	*	*
TOXAPHENE	0.5	*	*	*	*	*	*	*	*	*	*	*	*
TRICHLOROETHENE	204	*	*	*	*	*	*	*	*	*	*	*	*
2,4,5-TCPPA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	*	NA	NA

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

NA = Not Analyzed, NS = Not Sampled

* = The total concentrations are less than 10 times the the STLC, this substance is below STLC limits by definition.

V. Ocean Monitoring Data Summary

A. Ocean Sediment Chemistry Data Tables.
B. Fish Tissue Chemistry Data Tables.

Maps of sampling sites are included in this section.

Summary of Sampling Technique[16]:

Sediments

Benthic sediment is obtained using a 0.1m^2, chain-rigged Tandem van Veen grab sampler deployed from a City ocean monitoring vessel. Sediment samples are collected from the top 2 cm of an undisturbed grab surface and then placed into an appropriately labeled sample container. Subsamples are placed on ice and subsequently shipped to the laboratory for chemical analysis. Preservatives are used in accordance with the requirements of 40 CFR and our Quality Assurance Plan. Sediment concentrations are based on the dry weight of a sample.

Fish Tissue

Several species of flatfish and rockfish are collected by otter trawl and/or rig fishing. Dissected muscle and liver tissues from these fish are frozen and delivered to the laboratory for analysis. Tissue samples are kept frozen until prepared for analyses. Addendum 1 (June 2003) to MRP R9-2002-0025/NPDES CA0107409 changed the station definitions for trawl and rig fishing sampling, primarily eliminating or redefining stations. Trawl stations SD-7 through SD-14 were reorganized into zones as shown in Section B. In previous years' reports, samples from stations involved in the South Bay Ocean Outfall Predischarge Monitoring, such as SD-15, SD-17 thru SD-21 and RF-3 & RF-4 were included in this Pt. Loma Outfall Report. Since this data is now reported in the South Bay Outfall Monitoring reports, they are no longer contained in this report. Additionally, determinations of Poly Aromatic Hydrocarbon (PAHs) were removed by the modifications.

[16] For complete description of the sampling protocols, dissection techniques, equipment, vessels, etc. related to the sampling of ocean sediments and fish, please refer to the City of San Diego, Annual Receiving Waters Monitoring Report for the Point Loma Ocean Outfall 2008.

A. Ocean Sediment Chemistries.

The data for Biochemical Oxygen Demand (BOD) and Total Volatile Solids (TVS), all measures of organic enrichment, as well as total sulfides and temperature, are all presented by quarter and averaged. The quarterly particle size analysis does not lend itself to summarization and each quarter's analysis is presented separately. For the data from all the metals, cyanide, radiation and all of the numerous organic priority pollutant analyses (except dioxin, presented by quarter) only the average of the four quarters is presented here; the values for each quarter has been reported in the Quarterly Monitoring Reports and are on file.

Sampling stations may also be identified by either a 3-digit number and/or a letter-number identification code. All "A" stations are 100 series and "B" stations are 200 series designations. For example, the station A-15 is also called 115 and station B-7 would be 207.

Chemistries for benthic sediments for 22 “Core Stations” are identified in the following table.

Core Stations

B-8	E-1	E-9	E-20
B-9	E-2	E-11	E-21
B-10	E-3	E-14	E-23
B-11	E-5	E-15	E-25
B-12	E-7	E-17	E-26
	E-8	E-19	

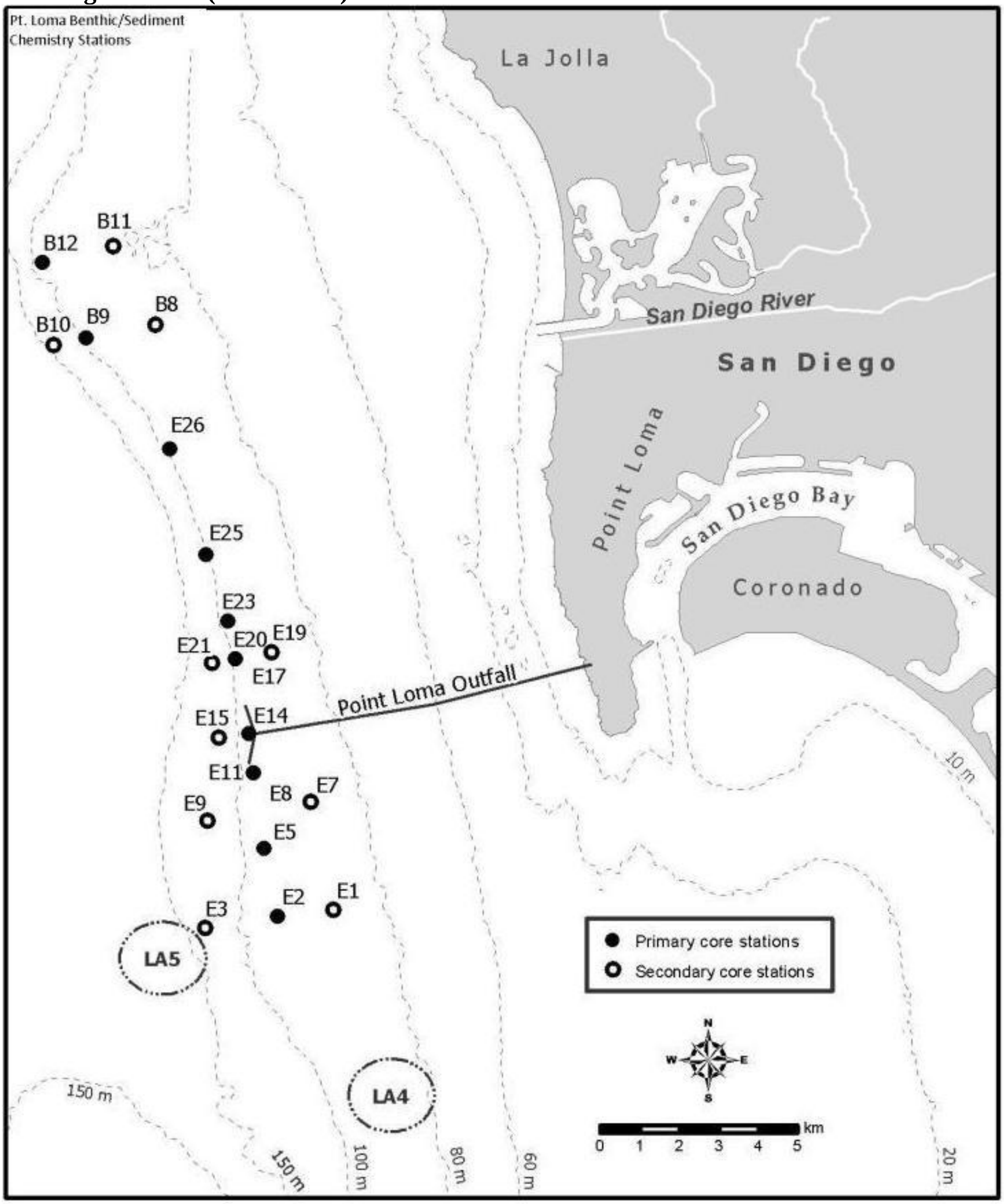
NPDES Permit No. CA 0107409/SDRWQCB Order No. R9-2002-0025 was modified in 2005 to incorporate 8 “Recovery Stations” (listed in following table) in the regular monitoring program as an on-going special study. The suite of analyses is not inclusive, e.g. BOD and PAHs are not a required part of the monitoring program for these stations and may not be included.

Recovery Stations

A-2	A-15
A-5	A-16
A-8	B-3
A-9	B-5

Note: No samples were collected for any of the Recovery Stations during the year 2013.

San Diego Benthic (chemistries) stations



POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL

Annual 2013

Biochemical Oxygen Demand
(mg/Kg)

STATION	First Quarter	Third Quarter	Average of All Quarters
B-8	NS	345	345
B-9	401	400	401
B-10	NS	446	446
B-11	NS	458	458
B-12	497	440	469
E-1	NS	227	227
E-2	257	197	227
E-3	NS	160	160
E-5	238	206	222
E-7	NS	352	352
E-8	270	222	246
E-9	NS	207	207
E-11	381	244	313
E-14	342	508	425
E-15	NS	293	293
E-17	314	201	258
E-19	NS	357	357
E-20	280	261	271
E-21	NS	226	226
E-23	330	263	297
E-25	230	207	219
E-26	372	262	317

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL

Annual 2013

Sulfides, Total
(mg/Kg)

STATION	First Quarter	Third Quarter	Average of All Quarters
B-8	NS	1.9	1.9
B-9	11.8	4.7	8.3
B-10	NS	11.6	11.6
B-11	NS	2.9	2.9
B-12	1.8	1.5	1.7
E-1	NS	1.6	1.6
E-2	3.4	3.1	3.3
E-3	NS	2.4	2.4
E-5	4.4	3.9	4.2
E-7	NS	4.2	4.2
E-8	4.1	3.6	3.9
E-9	NS	4.0	4.0
E-11	3.1	4.5	3.8
E-14	58.9	22.1	40.5
E-15	NS	7.4	7.4
E-17	3.8	31.7	17.8
E-19	NS	4.1	4.1
E-20	3.5	6.2	4.9
E-21	NS	3.5	3.5
E-23	6.0	3.0	4.5
E-25	9.0	2.6	5.8
E-26	5.7	1.4	3.6

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL

Annual 2013

Total Volatile Solids
(% Weight)

STATION	First Quarter	Third Quarter	Average of All Quarters
B-8	NS	3.2	3.2
B-9	2.9	3.0	3.0
B-10	NS	2.5	2.5
B-11	NS	4.0	4.0
B-12	2.9	3.2	3.1
E-1	NS	2.0	2.0
E-2	2.4	2.6	2.5
E-3	NS	1.7	1.7
E-5	2.1	1.9	2.0
E-7	NS	2.4	2.4
E-8	1.9	2.0	2.0
E-9	NS	2.3	2.3
E-11	1.9	2.0	2.0
E-14	1.8	1.9	1.9
E-15	NS	2.0	2.0
E-17	1.9	1.9	1.9
E-19	NS	2.4	2.4
E-20	1.9	2.1	2.0
E-21	NS	1.8	1.8
E-23	2.2	2.1	2.2
E-25	2.0	2.1	2.1
E-26	2.6	2.4	2.5

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT SEMI-ANNUAL
Grain Size
(all values are in percent distribution)

Annual 2013

Source		B-8	B-9	B-9	B-10	B-12	B-12	E-1
Sample ID		P668851	P647707	P668856	P668829	P647702	P668846	P670685
Analyte	Units:	09-JUL-2013	08-JAN-2013	09-JUL-2013	09-JUL-2013	08-JAN-2013	09-JUL-2013	15-JUL-2013
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.100	0.000	0.000
>1.0 to 2.0		0.925	0.933	0.839	0.534	0.882	0.800	0.823
>2.0 to 3.9		3.190	2.670	3.010	2.290	2.440	2.840	2.780
>3.9 to 7.8		8.670	6.410	8.290	6.170	5.800	8.250	7.430
>7.8 to 15.6		14.800	9.510	12.800	8.260	7.880	12.700	12.400
>15.6 to 31		14.600	10.800	9.900	5.310	7.330	8.490	11.000
>31 to 62.5		28.700	21.100	20.300	13.900	11.400	12.400	19.700
>62.5 to 125		25.000	35.000	33.600	43.700	24.000	26.800	29.500
>125 to 250		3.970	12.500	10.300	18.400	29.200	23.900	14.500
>250 to 500		0.196	1.120	0.991	1.450	10.500	3.790	1.850
>500 to 1000		0.000	0.000	0.000	0.000	0.463	0.040	0.029
>1000 to 2000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2000*		ND	ND	ND	1.87	1.05	ND	ND
Totals:		100.051	100.043	100.030	100.014	99.995	100.010	100.012

Source		E-2	E-2	E-5	E-5	E-7	E-8	E-8
Sample ID		P647569	P670555	P647579	P670566	P670372	P647756	P670571
Analyte	Units:	04-JAN-2013	12-JUL-2013	04-JAN-2013	12-JUL-2013	10-JUL-2013	08-JAN-2013	12-JUL-2013
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.912	0.761	0.792	0.665	0.752	0.572	0.545
>2.0 to 3.9		2.570	2.770	2.070	2.230	2.490	1.710	2.220
>3.9 to 7.8		5.860	7.630	4.700	5.850	6.530	3.880	6.220
>7.8 to 15.6		8.680	12.400	7.060	9.000	10.500	5.710	10.000
>15.6 to 31		10.400	10.600	8.850	7.770	10.100	7.160	8.520
>31 to 62.5		18.800	20.600	20.000	19.900	25.300	18.800	20.800
>62.5 to 125		30.700	31.200	39.400	40.000	34.800	43.000	38.800
>125 to 250		19.400	12.300	15.900	13.600	8.830	17.900	12.000
>250 to 500		2.770	1.680	1.180	1.070	0.709	1.310	0.882
>500 to 1000		0.037	0.029	0.000	0.000	0.000	0.000	0.000
>1000 to 2000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2000*		ND	ND	ND	ND	ND	ND	ND
Totals:		100.129	99.970	99.952	100.085	100.011	100.042	99.987

Source		E-9	E-11	E-11	E-14	E-14	E-15	E-17
		P670580	P647717	P670319	P647721	P670325	P670331	P647727
Analyte	Units:	12-JUL-2013	08-JAN-2013	10-JUL-2013	08-JAN-2013	10-JUL-2013	10-JUL-2013	08-JAN-2013
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.901	0.469	0.489	0.438	0.501	0.560	0.448
>2.0 to 3.9		3.330	1.830	1.950	1.680	2.200	2.310	1.760
>3.9 to 7.8		8.570	4.250	5.350	4.040	6.250	6.200	4.300
>7.8 to 15.6		11.900	5.960	8.490	5.890	9.290	9.130	6.520
>15.6 to 31		8.880	6.970	7.350	6.790	6.940	7.110	7.990
>31 to 62.5		20.600	19.100	20.900	17.900	18.600	18.700	20.400
>62.5 to 125		33.800	43.900	42.300	45.600	43.000	42.600	43.100
>125 to 250		10.900	16.400	12.400	16.600	12.400	12.600	14.600
>250 to 500		1.230	1.200	0.834	1.070	0.780	0.779	0.872
>500 to 1000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1000 to 2000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2000*		ND	ND	ND	ND	1.27	ND	ND
Totals:		100.111	100.079	100.063	100.008	99.961	99.989	99.990

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT SEMI-ANNUAL
Grain Size
(all values are in percent distribution)

Annual 2013

Source		E-17	E-19	E-20	E-20	E-21	E-23	E-23
Sample ID		P670339	P670346	P647731	P670348	P670358	P647741	P670363
Analyte	Units:	10-JUL-2013	10-JUL-2013	08-JAN-2013	10-JUL-2013	10-JUL-2013	08-JAN-2013	10-JUL-2013
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.447	0.775	0.799	0.702	0.495	0.669	0.545
>2.0 to 3.9		1.920	2.620	2.080	2.410	2.130	2.060	2.240
>3.9 to 7.8		5.640	7.070	4.720	6.490	5.960	4.690	6.220
>7.8 to 15.6		9.170	11.700	7.030	10.100	8.990	7.050	10.200
>15.6 to 31		7.770	11.400	9.100	8.800	7.150	9.370	9.430
>31 to 62.5		21.400	28.800	22.600	23.200	19.500	23.900	24.800
>62.5 to 125		41.600	31.600	39.600	38.100	43.200	40.200	37.600
>125 to 250		11.400	5.600	13.000	9.420	11.800	11.600	8.510
>250 to 500		0.671	0.386	1.070	0.721	0.676	0.568	0.481
>500 to 1000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1000 to 2000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2000*		ND	ND	ND	ND	ND	ND	ND
Totals:		100.018	99.951	99.999	99.943	99.901	100.107	100.026

Source		E-25	E-25	E-26	E-26
Sample ID		P647743	P670368	P647753	P668862
Analyte	Units:	08-JAN-2013	10-JUL-2013	08-JAN-2013	09-JUL-2013
>0.5 to 1.0		0.000	0.000	0.000	0.000
>1.0 to 2.0		0.825	0.540	0.865	0.774
>2.0 to 3.9		2.240	2.240	2.360	2.650
>3.9 to 7.8		5.090	6.270	5.460	7.080
>7.8 to 15.6		7.380	10.200	8.030	11.100
>15.6 to 31		9.290	9.260	9.760	9.900
>31 to 62.5		22.700	23.600	21.700	23.700
>62.5 to 125		38.600	37.200	36.200	35.600
>125 to 250		12.900	9.880	14.200	8.540
>250 to 500		0.888	0.794	1.360	0.631
>500 to 1000		0.000	0.000	0.014	0.000
>1000 to 2000		0.000	0.000	0.000	0.000
>2000*		ND	ND	2.77	ND
Totals:		99.913	99.984	99.949	99.975

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL SUMMARY
Total Organic Carbon/Total Nitrogen

Annual 2013

Source			B-8 Avg 2013	B-9 Avg 2013	B-10 Avg 2013	B-11 Avg 2013	B-12 Avg 2013	E-1 Avg 2013	E-2 Avg 2013
Analyte	MDL	Units							
Total Nitrogen	.005	WT%	0.089	0.068	0.055	0.080	0.061	0.057	0.054
Total Organic Carbon	.01	WT%	0.761	0.665	0.440	0.643	2.040	0.467	0.504

Source			E-3 Avg 2013	E-5 Avg 2013	E-7 Avg 2013	E-8 Avg 2013	E-9 Avg 2013	E-11 Avg 2013	E-14 Avg 2013
Analyte	MDL	Units							
Total Nitrogen	.005	WT%	0.039	0.047	0.061	0.046	0.054	0.050	0.049
Total Organic Carbon	.01	WT%	0.303	0.395	0.515	0.399	0.441	0.421	0.434

Source			E-15 Avg 2013	E-17 Avg 2013	E-19 Avg 2013	E-20 Avg 2013	E-21 Avg 2013	E-23 Avg 2013	E-25 Avg 2013
Analyte	MDL	Units							
Total Nitrogen	.005	WT%	0.048	0.053	0.071	0.053	0.051	0.053	0.054
Total Organic Carbon	.01	WT%	0.414	0.442	0.602	0.445	0.420	0.463	0.444

Source			E-26 Avg 2013
Analyte	MDL	Units	
Total Nitrogen	.005	WT%	0.061
Total Organic Carbon	.01	WT%	0.822

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL OCEAN SEDIMENT - STANDARD
Trace Metals

Annual 2013

Source:			B-8	B-9	B-10	B-11	B-12	E-1	E-2
Date:			2013	2013	2013	2013	2013	2013	2013
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	13000	17000	15400	12000	13400	14700	16500
Antimony	.3	MG/KG	0.5	0.4	ND	0.5	ND	<0.3	0.3
Arsenic	.33	MG/KG	3.18	3.34	1.92	3.80	4.52	2.79	2.57
Barium	.02	MG/KG	30.80	79.10	52.00	26.60	33.00	46.20	49.10
Beryllium	.01	MG/KG	0.21	0.30	0.34	0.22	0.33	0.24	0.26
Cadmium	.06	MG/KG	0.14	0.16	0.13	0.16	0.18	<0.06	0.11
Chromium	.1	MG/KG	19.3	24.0	26.4	18.9	25.7	18.9	20.2
Copper	.2	MG/KG	18.2	10.8	9.4	6.9	8.8	10.8	12.1
Iron	9	MG/KG	15100	17700	22100	15600	21900	14100	16000
Lead	.8	MG/KG	7.7	8.5	7.5	5.6	7.1	11.9	9.4
Manganese	.08	MG/KG	165	164	157	205	153	219	183
Mercury	.004	MG/KG	0.046	0.029	0.019	0.037	0.018	0.052	0.046
Nickel	.1	MG/KG	11.1	12.1	12.8	9.7	10.2	10.4	8.9
Selenium	.24	MG/KG	ND	0.28	ND	ND	0.28	0.48	0.45
Silver	.04	MG/KG	0.92	0.46	0.26	1.50	0.33	ND	ND
Thallium	.5	MG/KG	ND	ND	ND	ND	ND	ND	ND
Tin	.3	MG/KG	1.5	1.6	1.5	0.9	1.5	0.7	1.2
Zinc	.25	MG/KG	43.80	40.80	43.30	33.60	41.10	37.30	38.80

Source:			E-3	E-5	E-7	E-8	E-9	E-11	E-14
Date:			2013	2013	2013	2013	2013	2013	2013
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	14900	12700	16500	11900	11300	11900	11900
Antimony	.3	MG/KG	0.4	0.8	0.7	0.6	ND	0.5	0.5
Arsenic	.33	MG/KG	2.00	2.09	2.55	2.18	3.11	2.63	2.41
Barium	.02	MG/KG	68.20	34.10	42.90	29.00	22.80	28.50	28.80
Beryllium	.01	MG/KG	0.21	0.20	0.23	0.20	0.28	0.21	0.20
Cadmium	.06	MG/KG	0.10	0.14	0.16	0.11	0.18	0.14	0.20
Chromium	.1	MG/KG	15.3	15.6	19.9	15.0	26.5	14.7	14.5
Copper	.2	MG/KG	20.0	6.5	10.7	6.8	7.4	6.6	8.1
Iron	9	MG/KG	15100	11700	15600	11700	22600	11200	10300
Lead	.8	MG/KG	11.6	6.8	7.7	5.3	5.6	5.5	5.0
Manganese	.08	MG/KG	174	167	225	164	135	164	147
Mercury	.004	MG/KG	0.047	0.025	0.036	0.023	0.030	0.019	0.021
Nickel	.1	MG/KG	10.3	8.8	12.4	8.3	10.4	8.2	8.6
Selenium	.24	MG/KG	0.58	0.47	0.57	0.51	0.56	0.40	0.51
Silver	.04	MG/KG	1.35	0.14	2.30	0.98	ND	1.77	1.13
Thallium	.5	MG/KG	ND	ND	ND	ND	ND	ND	ND
Tin	.3	MG/KG	1.2	1.3	1.3	1.1	1.1	1.1	1.2
Zinc	.25	MG/KG	39.90	28.10	36.70	27.10	39.30	27.30	28.10

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL OCEAN SEDIMENT - STANDARD
Trace Metals

Annual 2013

Source:			E-15	E-17	E-19	E-20	E-21	E-23	E-25
Date:			2013	2013	2013	2013	2013	2013	2013
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	15300	13400	20700	14600	14100	16300	14500
Antimony	.3	MG/KG	0.5	0.6	0.6	0.6	0.5	0.7	0.5
Arsenic	.33	MG/KG	2.29	2.65	2.83	2.78	2.39	2.62	2.58
Barium	.02	MG/KG	38.60	31.60	49.90	36.20	29.60	41.30	35.00
Beryllium	.01	MG/KG	0.24	0.22	0.26	0.22	0.20	0.26	0.23
Cadmium	.06	MG/KG	0.16	0.17	0.20	0.15	0.15	0.19	0.14
Chromium	.1	MG/KG	18.0	16.0	21.2	16.8	15.9	19.5	16.7
Copper	.2	MG/KG	7.8	7.7	12.2	8.1	8.3	9.4	7.8
Iron	9	MG/KG	12800	11600	15400	12300	11200	14000	12300
Lead	.8	MG/KG	7.2	5.9	8.6	6.3	5.6	7.3	6.3
Manganese	.08	MG/KG	198	168	219	174	178	187	168
Mercury	.004	MG/KG	0.023	0.022	0.039	0.024	0.027	0.028	0.025
Nickel	.1	MG/KG	10.8	9.1	14.0	9.5	10.9	10.6	9.7
Selenium	.24	MG/KG	0.48	0.41	0.49	0.52	0.49	0.59	0.39
Silver	.04	MG/KG	0.75	1.22	2.51	1.18	1.82	1.00	1.33
Thallium	.5	MG/KG	ND	ND	ND	ND	ND	ND	ND
Tin	.3	MG/KG	0.6	1.2	1.1	1.1	0.9	1.5	1.1
Zinc	.25	MG/KG	31.40	28.80	40.80	30.40	28.60	34.80	30.30

Source:			E-26
Date:			2013
Analyte:	MDL	Units	Average
Aluminum	2	MG/KG	14200
Antimony	.3	MG/KG	0.5
Arsenic	.33	MG/KG	2.51
Barium	.02	MG/KG	34.50
Beryllium	.01	MG/KG	0.23
Cadmium	.06	MG/KG	0.15
Chromium	.1	MG/KG	16.4
Copper	.2	MG/KG	8.0
Iron	9	MG/KG	12900
Lead	.8	MG/KG	6.5
Manganese	.08	MG/KG	160
Mercury	.004	MG/KG	0.032
Nickel	.1	MG/KG	9.4
Selenium	.24	MG/KG	0.49
Silver	.04	MG/KG	1.88
Thallium	.5	MG/KG	ND
Tin	.3	MG/KG	1.3
Zinc	.25	MG/KG	30.20

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2013

Source Analyte	MDL	Units	B-8 2013 Average	B-9 2013 Average	B-10 2013 Average	B-11 2013 Average	B-12 2013 Average	E-1 2013 Average	E-2 2013 Average	E-3 2013 Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	170	455	180	140	328	435	420	265
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	4100	ND	ND	ND	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	300	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	380	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	780	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	170	4555	180	140	328	435	420	265
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	170	4555	180	140	328	435	420	265

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2013

Source			E-5	E-7	E-8	E-9	E-11	E-14	E-15	E-17
			2013	2013	2013	2013	2013	2013	2013	2013
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average	Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	250	280	280	290	250	E205	100	230
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	ND	ND	ND	155	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	300	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	380	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	780	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	250	280	280	290	405	0	100	230
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	250	280	280	290	405	0	100	230

nd=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2013

Source Analyte	MDL	Units	E-19 2013 Average	E-20 2013 Average	E-21 2013 Average	E-23 2013 Average	E-25 2013 Average	E-26 2013 Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND
Dieldrin	340	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	340	465	340	415	320	275
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	300	NG/KG	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA
Oxychlordane	1200	NG/KG	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND
Cis Nonachlor	380	NG/KG	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	720	NG/KG	ND	ND	ND	ND	ND	ND
Beta Endosulfan	780	NG/KG	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	1100	NG/KG	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	340	465	340	415	320	275
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	340	465	340	415	320	275

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

Annual 2013

Source Analyte	MDL	Units	B-8 2013 Avg	B-9 2013 Avg	B-10 2013 Avg	B-11 2013 Avg	B-12 2013 Avg	E-1 2013 Avg	E-2 2013 Avg	E-3 2013 Avg
PCB 18	540	NG/KG	ND	ND	ND	110	ND	ND	ND	E110
PCB 28	660	NG/KG	ND	ND	ND	110	ND	ND	ND	81
PCB 52	1000	NG/KG	ND	ND	ND	ND	ND	ND	ND	250
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	ND	ND	110
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	ND	ND	E59
PCB 70	1100	NG/KG	ND	ND	ND	62	ND	63	<60	160
PCB 66	920	NG/KG	ND	ND	ND	ND	ND	ND	<100	120
PCB 101	430	NG/KG	ND	ND	ND	ND	ND	260	ND	540
PCB 99	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	E220
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	ND	ND	270	ND	510
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	ND	ND	420	E180	420
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	ND	320	ND	490
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 138	590	NG/KG	ND	ND	ND	ND	ND	540	E180	530
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	ND	ND	150	ND	220
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	E94	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	ND	ND	310	ND	320
PCB 170	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	E170
Total PCB's	1100	NG/KG	0	0	0	282	0	2333	0	3751

ND=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

Annual 2013

Source Analyte	MDL	Units	E-5 2013 Avg	E-7 2013 Avg	E-8 2013 Avg	E-9 2013 Avg	E-11 2013 Avg	E-14 2013 Avg	E-15 2013 Avg	E-17 2013 Avg
PCB 18	540	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 70	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 66	920	NG/KG	<920	ND	ND	ND	ND	ND	ND	ND
PCB 101	430	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 99	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	130	ND	ND	ND	ND
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	<110	130	ND	ND	ND	ND
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 138	590	NG/KG	ND	ND	<80	140	ND	ND	ND	ND
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 170	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB's	1100	NG/KG	0	0	0	400	0	0	0	0

ND=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

Annual 2013

Source Analyte	MDL	Units	E-19 2013 Avg	E-20 2013 Avg	E-21 2013 Avg	E-23 2013 Avg	E-25 2013 Avg	E-26 2013 Avg
PCB 18	540	NG/KG	ND	ND	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	ND	ND	ND
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	ND
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	ND
PCB 70	1100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 66	920	NG/KG	ND	ND	ND	ND	ND	ND
PCB 101	430	NG/KG	ND	ND	ND	ND	ND	ND
PCB 99	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	ND	<640	ND
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	ND	<500	ND
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	ND	ND
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	ND
PCB 138	590	NG/KG	ND	ND	ND	ND	ND	ND
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	170	ND	ND	ND
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	390	ND	ND	ND
PCB 170	570	NG/KG	ND	ND	180	ND	ND	ND
Total PCB's	1100	NG/KG	0	0	740	0	0	0

ND=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL Base/Neutrals - Standard Stations

Annual 2013

Source Analyte	MDL	Units	B-8 2013 Avg	B-9 2013 Avg	B-10 2013 Avg	B-11 2013 Avg	B-12 2013 Avg	E-1 2013 Avg	E-2 2013 Avg	E-3 2013 Avg	E-5 2013 Avg	E-7 2013 Avg	E-8 2013 Avg	E-9 2013 Avg	E-11 2013 Avg
Acenaphthene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	E9	ND	ND	ND	ND	ND
Benzo[a]anthracene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	20	UG/KG	ND	ND	ND	ND	ND	E24	ND	22	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	E36	ND	ND	ND	E10	ND	ND	<20
Benzo[e]pyrene	20	UG/KG	ND	ND	ND	ND	ND	E21	<20	E16	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	20	UG/KG	ND	ND	ND	ND	ND	E21	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	ND	ND	ND	ND	ND	ND
Biphenyl	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	40	UG/KG	ND	ND	ND	ND	ND	<40	ND	E14	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	20	UG/KG	E13	<20	E17	E14	<20	E11	<20	E10	ND	E17	ND	ND	<20
Fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	E23	<20	22	ND	ND	ND	ND	ND
Fluorene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	E13	ND	ND	ND	ND	ND
1-Methylphenanthrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	30	UG/KG	ND	ND	ND	ND	ND	<30	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	30	UG/KG	ND	ND	ND	ND	ND	<30	ND	E10	ND	ND	ND	ND	ND
Pyrene	20	UG/KG	ND	ND	ND	ND	ND	E29	<20	21	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Base/Neutral Compounds	40	UG/KG	0	0	0	0	0	0	0	65	0	0	0	0	0

Source Analyte	MDL	Units	E-14 2013 Avg	E-15 2013 Avg	E-17 2013 Avg	E-19 2013 Avg	E-20 2013 Avg	E-21 2013 Avg	E-23 2013 Avg	E-25 2013 Avg	E-26 2013 Avg
Acenaphthene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[e]pyrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	40	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	20	UG/KG	<20	E9	<20	E15	<20	E11	<20	<20	ND
Fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylphenanthrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	20	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND
Base/Neutral Compounds	40	UG/KG	0	0	0	0	0	0	0	0	0

nd=not detected; NS=not sampled; NA=not analyzed

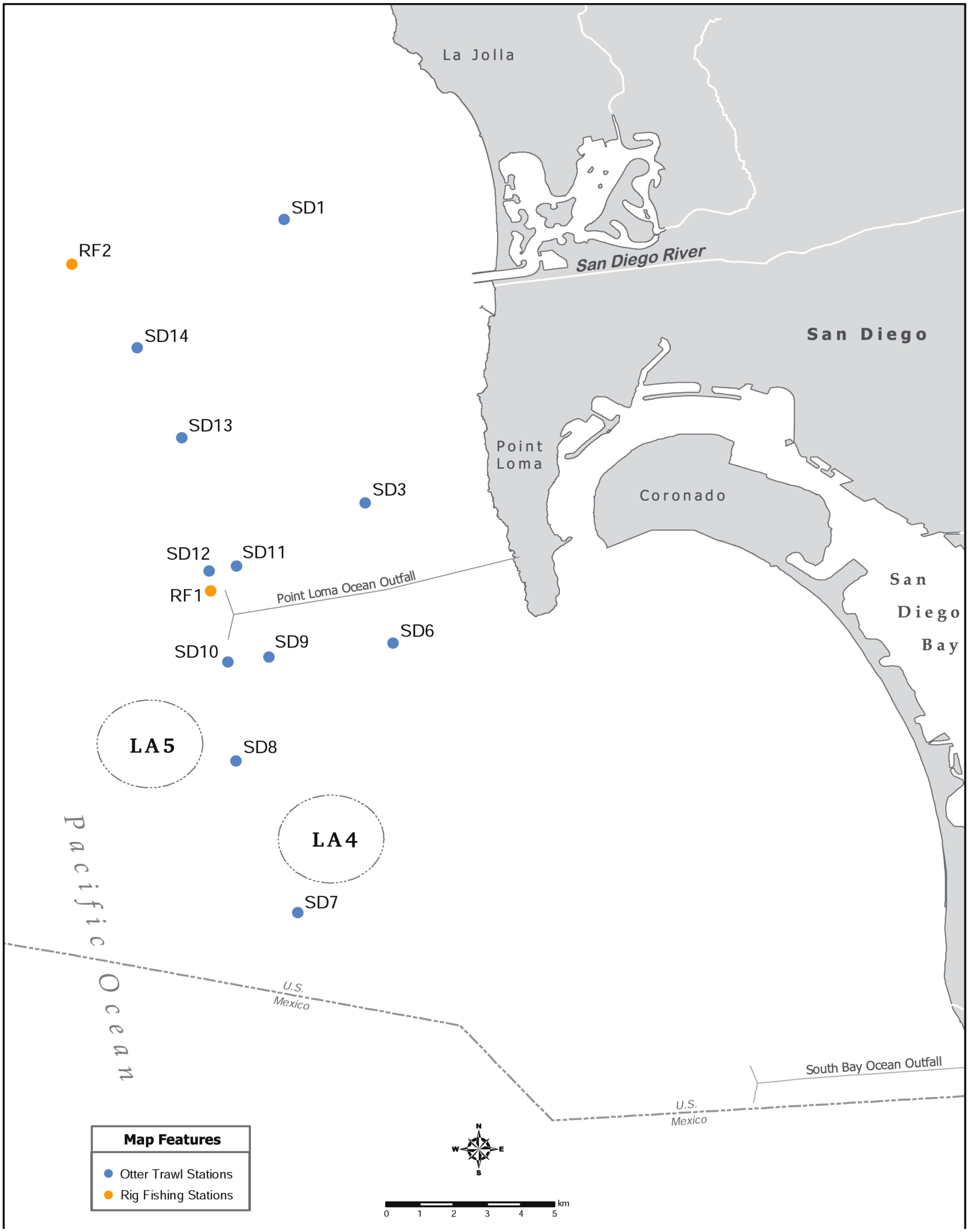
B. Fish Tissue Data.

Fish were taken from the stations shown in the below tables during 2013. The fish were dissected, preserved by freezing, and each sample analyzed for trace metals, chlorinated pesticides, PCBs, Lipids, and total solids.

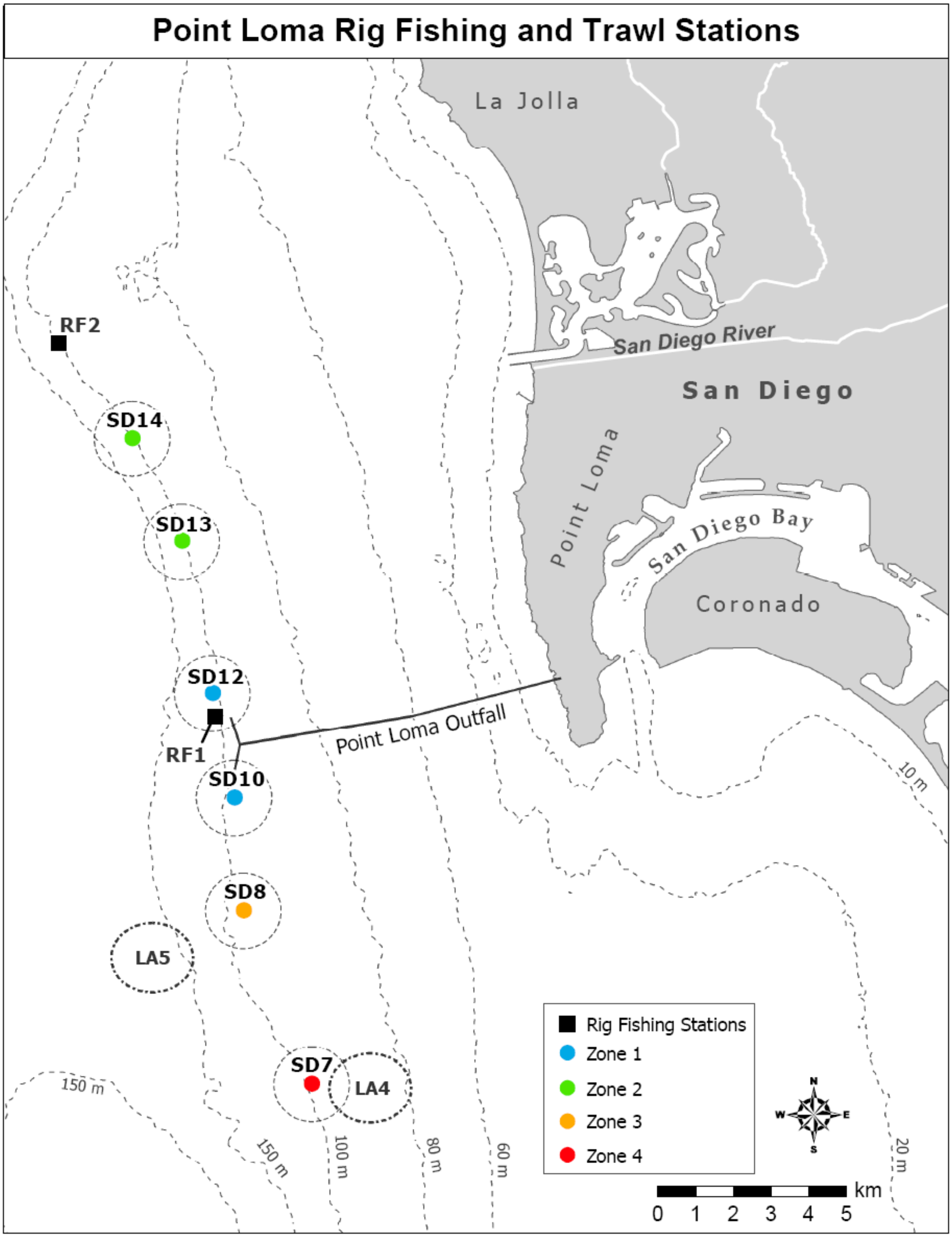
The reported values are annual averages. Results for individual sampling events are contained in the previously published quarterly reports.

Station	Matrix
RF-1	FISH_MUSCLE
RF-2	FISH_MUSCLE

Station	Matrix
TFZONE1 (SD-10 & 12)	FISH_LIVER
TFZONE2 (SD-13 & 14)	FISH_LIVER
TFZONE3 (SD-8)	FISH_LIVER
TFZONE4 (SD-7)	FISH_LIVER



San Diego Rig Fishing and Trawl Stations



New Trawl Stations representing zones (i.e. TFZONE1 through TFZONE4)

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Fish Tissue - Muscle/Liver
FISH - Lipids & Total Solids

Annual 2013

Source				RF-1	RF-2	TFZONE1	TFZONE2	TFZONE3	TFZONE4
				2013	2013	2013	2013	2013	2013
Tissue	Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg
Liver	Lipids	.09	WT%	*	*	42.7	36.7	36.0	41.4
Liver	Total Solids	.4	WT%	*	*	52.9	52.5	51.3	51.1
Muscle	Lipids	.09	WT%	2.26	1.40	*	*	*	*
Muscle	Total Solids	.4	WT%	22.8	22.0	*	*	*	*

* = Not required

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Fish Tissue - Muscle/Liver
Trace Metals

Annual 2013

Source:			TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date:			2013	2013	2013	2013
Analyte:	MDL	Units	Average	Average	Average	Average
Aluminum	3	MG/KG	ND	ND	ND	ND
Antimony	.2	MG/KG	<0.20	<0.20	ND	ND
Arsenic	.24	MG/KG	3.69	3.06	2.96	3.56
Beryllium	.006	MG/KG	ND	ND	ND	ND
Cadmium	.06	MG/KG	8.52	4.36	6.98	9.67
Chromium	.1	MG/KG	0.2	0.1	0.3	0.2
Copper	.3	MG/KG	2.8	2.0	3.0	3.9
Iron	2	MG/KG	133	73	72	106
Lead	.2	MG/KG	ND	<0.20	ND	<0.20
Manganese	.1	MG/KG	0.8	1.2	0.9	1.0
Mercury	.002	MG/KG	0.108	0.046	0.100	0.107
Nickel	.2	MG/KG	ND	ND	ND	ND
Selenium	.06	MG/KG	1.08	0.99	1.27	0.76
Silver	.05	MG/KG	0.05	ND	<0.05	<0.05
Thallium	.4	MG/KG	ND	ND	ND	<0.40
Tin	.2	MG/KG	1.99	2.32	2.21	1.88
Zinc	.15	MG/KG	24.3	23.2	27.9	25.0
Total Solids	.4	WT%	52.9	52.5	51.3	51.1

Source:			RF-1	RF-2
Date:			2013	2013
Analyte:	MDL	Units	Average	Average
Aluminum	3	MG/KG	ND	ND
Antimony	.2	MG/KG	ND	ND
Arsenic	.24	MG/KG	1.01	0.47
Beryllium	.006	MG/KG	ND	ND
Cadmium	.06	MG/KG	ND	ND
Chromium	.1	MG/KG	0.17	0.15
Copper	.3	MG/KG	<0.30	ND
Iron	2	MG/KG	<2.00	<2.00
Lead	.2	MG/KG	ND	ND
Manganese	.1	MG/KG	<0.10	ND
Mercury	.002	MG/KG	0.285	0.080
Nickel	.2	MG/KG	ND	ND
Selenium	.06	MG/KG	0.542	0.377
Silver	.05	MG/KG	ND	ND
Thallium	.4	MG/KG	ND	ND
Tin	.2	MG/KG	0.73	0.99
Zinc	.15	MG/KG	3.96	2.78
Total Solids	.4	WT%	22.8	22.0

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH LIVER - Chlorinated Pesticides

Annual 2013

Source			TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date			2013	2013	2013	2013
Analyte	MDL	Units	Avg	Avg	Avg	Avg
Hexachlorobenzene	2.29	UG/KG	4.4	3.5	3.8	8.4
BHC, Gamma isomer	50.4	UG/KG	ND	ND	ND	ND
Heptachlor	2.1	UG/KG	ND	ND	ND	ND
Aldrin	25.3	UG/KG	ND	ND	ND	ND
Heptachlor epoxide	3.79	UG/KG	ND	ND	ND	ND
o,p-DDE	2.52	UG/KG	E3.2	<2.5	<2.5	E3.2
Alpha Endosulfan	24.7	UG/KG	ND	ND	ND	ND
Alpha (cis) Chlordane	2.02	UG/KG	ND	<2.0	<2.0	ND
Trans Nonachlor	1.44	UG/KG	8.8	4.4	1.8	6.7
p,p-DDE	4.94	UG/KG	317	235	220	320
p,p-DDMU	1.82	UG/KG	19.3	10.3	14.3	17.3
Dieldrin	12.6	UG/KG	ND	ND	ND	ND
o,p-DDD	1.98	UG/KG	ND	ND	ND	ND
Endrin	30.3	UG/KG	ND	ND	ND	ND
o,p-DDT	2.05	UG/KG	ND	ND	ND	ND
p,p-DDD	2.86	UG/KG	5.0	E3.7	3.9	5.6
Beta Endosulfan	43.8	UG/KG	ND	ND	ND	ND
p,p-DDT	2.76	UG/KG	5.9	E3.3	2.9	4.6
Mirex	1.77	UG/KG	ND	ND	ND	ND
Endosulfan Sulfate	58.3	UG/KG	ND	ND	ND	ND

ND= not detected
NA= not analyzed
NS= not sampled

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

Note: Standards for alpha and gamma chlordene are no longer available in the U.S. for the analysis of these compounds.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH MUSCLE - Chlorinated Pesticides

Annual 2013

Source			RF-1	RF-2
Date			2013	2013
Analyte	MDL	Units	Avg	Avg
Hexachlorobenzene	.23	UG/KG	E0.40	<0.23
BHC, Gamma isomer	5.04	UG/KG	ND	ND
Heptachlor	.21	UG/KG	ND	ND
Aldrin	2.53	UG/KG	ND	ND
Heptachlor epoxide	.38	UG/KG	ND	ND
o,p-DDE	.25	UG/KG	0.37	<0.25
Alpha Endosulfan	2.47	UG/KG	ND	ND
Alpha (cis) Chlordane	.2	UG/KG	0.2	ND
Trans Nonachlor	.14	UG/KG	0.4	ND
p,p-DDE	.49	UG/KG	25.7	3.80
p,p-DDMU	.18	UG/KG	0.97	ND
Dieldrin	1.26	UG/KG	ND	ND
o,p-DDD	.2	UG/KG	ND	ND
Endrin	3.03	UG/KG	ND	ND
o,p-DDT	.2	UG/KG	ND	ND
p,p-DDD	.29	UG/KG	0.53	ND
Beta Endosulfan	43.8	UG/KG	ND	ND
p,p-DDT	.28	UG/KG	<0.3	ND
Mirex	.18	UG/KG	ND	ND
Endosulfan Sulfate	58.3	UG/KG	ND	ND

ND= not detected
NA= not analyzed
NS= not sampled

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH LIVER - Poly Chlorinated Biphenyls (PCB's)

Annual 2013

Source			TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date			2013	2013	2013	2013
Analyte	MDL	Units	Avg	Avg	Avg	Avg
PCB 18	1.49	UG/KG	ND	ND	ND	ND
PCB 28	1.47	UG/KG	E0.93	<1.47	E0.90	E0.98
PCB 49	1.67	UG/KG	2.83	E1.35	3.97	4.68
PCB 37	2.03	UG/KG	ND	ND	ND	ND
PCB 70	2.05	UG/KG	3.2	E1.7	4.0	4.0
PCB 101	1.7	UG/KG	11.10	5.48	15.10	16.70
PCB 119	2.72	UG/KG	ND	ND	ND	ND
PCB 87	1.95	UG/KG	ND	ND	2.00	<1.95
PCB 110	2.13	UG/KG	11.20	4.37	14.90	13.20
PCB 151	1.52	UG/KG	6.00	2.43	6.60	4.03
PCB 77	3.32	UG/KG	ND	ND	ND	ND
PCB 149	1.92	UG/KG	6.83	3.68	9.27	9.60
PCB 123	3.04	UG/KG	<3.0	<3.0	<3.0	E3.1
PCB 118	2.56	UG/KG	27.00	11.50	31.00	29.20
PCB 114	2.77	UG/KG	ND	ND	ND	ND
PCB 153/168	3.76	UG/KG	63.7	27.5	66.3	63.7
PCB 105	2.28	UG/KG	6.87	2.90	7.30	7.08
PCB 138	1.93	UG/KG	38.3	15.8	39.3	37.0
PCB 158		UG/KG	E3.10	E1.22	E3.30	E3.07
PCB 187	2.25	UG/KG	25.3	11.2	23.7	23.2
PCB 183	2.06	UG/KG	7.33	3.33	6.73	6.58
PCB 126	1.93	UG/KG	ND	ND	ND	ND
PCB 128	2.28	UG/KG	7.27	3.40	8.03	7.33
PCB 167	2.05	UG/KG	<2.05	<2.05	E6.77	<2.05
PCB 177	1.96	UG/KG	4.60	E2.25	3.97	4.62
PCB 156	2.33	UG/KG	<2.33	<2.33	2.50	3.23
PCB 157	2.77	UG/KG	ND	ND	ND	ND
PCB 180	2.89	UG/KG	27.0	11.5	25.3	24.8
PCB 170	2.16	UG/KG	8.97	3.97	7.90	7.83
PCB 169	1.41	UG/KG	ND	ND	ND	ND
PCB 189	1.78	UG/KG	ND	ND	ND	ND
PCB 194	3.41	UG/KG	5.60	<3.41	6.83	<3.41
PCB 206	1.84	UG/KG	5.73	2.00	5.20	5.48

ND= not detected
NA= not analyzed
NS= not sampled

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH MUSCLE - Poly Chlorinated Biphenyls (PCB's)

Annual 2013

Source			RF-1	RF-2
			2013	2013
Analyte	MDL	Units	Avg	Avg
PCB 18	.15	UG/KG	ND	ND
PCB 28	.15	UG/KG	<0.15	ND
PCB 49	.17	UG/KG	0.20	ND
PCB 37	.2	UG/KG	ND	ND
PCB 70	.2	UG/KG	<0.20	ND
PCB 101	.17	UG/KG	1.00	ND
PCB 119	.27	UG/KG	ND	ND
PCB 87	.19	UG/KG	<0.19	ND
PCB 110	.21	UG/KG	0.53	ND
PCB 151	.15	UG/KG	<0.15	ND
PCB 77	.33	UG/KG	ND	ND
PCB 149	.19	UG/KG	E0.57	<0.19
PCB 123	.3	UG/KG	ND	ND
PCB 118	.26	UG/KG	1.13	<0.26
PCB 114	.28	UG/KG	ND	ND
PCB 153/168	.38	UG/KG	E1.93	<0.38
PCB 105	.23	UG/KG	0.30	ND
PCB 138	.19	UG/KG	E1.10	<0.19
PCB 158	.26	UG/KG	<0.26	ND
PCB 187	.23	UG/KG	0.60	<0.23
PCB 183	.21	UG/KG	<0.21	ND
PCB 126	.19	UG/KG	ND	ND
PCB 128	.23	UG/KG	<0.23	ND
PCB 167	.21	UG/KG	ND	ND
PCB 177	.2	UG/KG	<0.20	ND
PCB 156	.23	UG/KG	ND	ND
PCB 157	.28	UG/KG	ND	ND
PCB 180	.29	UG/KG	E0.77	<0.29
PCB 170	.22	UG/KG	0.27	ND
PCB 169	.14	UG/KG	ND	ND
PCB 189	.18	UG/KG	ND	ND
PCB 194	.34	UG/KG	<0.34	ND
PCB 206	.18	UG/KG	ND	ND

ND= not detected
NA= not analyzed
NS= not sampled

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS.

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VI. Annual Pretreatment Program Analyses

2013 Annual Pretreatment Program Analyses (QUARTERLY SLUDGE PROJECT)

The Quarterly Sludge Project is part of the Pt. Loma WWTP NPDES (Permit No. CA0107409/Order No. R9-2009-0001) monitoring requirements. The sampling plan is designed so as to provide a "snapshot" of all of the physical and chemical characteristics monitored of the wastewater treatment waste streams for a short interval of time (1-2 days). This is conducted quarterly.

The Quarterly Sludge Project was conducted four times during 2013. Sampling occurred on February 05, May 07, August 06, and October 01. Monthly composite samples of MBC dewatered sludge during the respective calendar months were taken and analyzed for a similar suite of parameters. The tables showing the results of these analyses follow in this section.

Pt. Loma WWTP Influent (PLR) and effluent (PLE) sewage are flow-proportioned 24-hr composites* taken by a refrigerated automatic continuous autosampler over the 24-hr periods from midnight to midnight of the sampling days. Two days of sampling were required for all of the required samples. The sampling locations are the influent and effluent channels.

Digested and raw sludge are sampled by operations staff and composited by the laboratory. The digested sludge sample is composited from 12 manual grab samples collected at two-hour intervals from Digester 7. The raw sludge sample is composited from 12 manual grabs collected at two hour intervals.

The Metro Biosolids Center (MBC) uses a centrifuge dewatering process, the MBC centrate is the return stream source. This is a 24-hr composite collected with the refrigerated automatic composite sampler currently installed on the MBC combined centrate return stream line. MBC_NC_DSL and MBC_NC_RSL are the MBC Digested Sludge Line and NCWRP to MBC Raw Sludge Line respectively; MBC_NC_DSL composite sample was compiled from grabs collected every 2 hours for the 24 hours of the sampling program each quarter while MBC_NC_RSL is a 24-hr composite collected with the refrigerated automatic composite sampler.

Quarterly Sludge Project data for the North City Water Reclamation Plant and the South Bay Water Reclamation Plant are reported in the Pre-treatment monitoring sections of the Annuals submitted under separate cover for each of these facilities.

***** pH, Grease & Oils, temperature, and conductivity are determined from grab samples.

Abbreviations:

PLR	Pt Loma WWTP influent.	RAW COMP	Pt. Loma raw sludge composite
PLE	Pt Loma WWTP effluent.	DIG COMP	Pt. Loma digested sludge composite
MBCDEWCN	MBC dewatered sludge from centrifuges.	MBC_COMBCN	MBC combined centrate from dewatering centrifuges.
MBC_NC_RSL	NCWRP to MBC raw sludge line	MBC_NC_DSL	MBC digested sludge line

A. Point Loma Wastewater Treatment Plant and Metro Biosolids Center Sources

POINT LOMA WASTEWATER TREATMENT PLANT
Physical/Aggregate Properties Report

Annual 2013

Point Loma

Source Analyte	MDL	Units	PLR 05-FEB-2013	PLR 07-MAY-2013	PLR 06-AUG-2013	PLR 01-OCT-2013
Conductivity	10	umhos/cm	2710	3060	3010	2750
HEM (Grease & Oil)	1.2	mg/L	51.7	38.2	58.7	49.8
Total Suspended Solids	1.4	mg/L	350	364	349	348
Volatile Suspended Solids	1.6	mg/L	302	310	298	298
Total Alkalinity (bicarbonate)	20	mg/L	291	306	330	309
Total Solids	10	mg/L	1890	2130	2090	1880
Total Volatile Solids	100	mg/L	601	640	612	524
Total Kjeldahl Nitrogen	1.6	mg/L	57	52	62	56
BOD (Biochemical Oxygen Demand)	2	mg/L	310	305	301	276
Chemical Oxygen Demand	18	mg/L	717	528	784	591
pH (grab)		pH Units	7.33	7.30	7.49	7.40
Ammonia-N	.3	mg/L	37.5	35.1	40.0	38.3
Turbidity	.13	NTU	143	133	136	133
Total Dissolved Solids	28	mg/L	1590	1840	1670	1550
MBAS (Surfactants)	.03	mg/L	7.82	6.95	6.59	6.15

Source Analyte	MDL	Units	PLE 05-FEB-2013	PLE 07-MAY-2013	PLE 06-AUG-2013	PLE 01-OCT-2013
Conductivity	10	umhos/cm	2740	3120	3070	2810
HEM (Grease & Oil)	1.2	mg/L	10.6	7.1	9.9	9.3
Total Suspended Solids	1.4	mg/L	37	34	26	21
Volatile Suspended Solids	1.6	mg/L	27	26	21	18
Total Alkalinity (bicarbonate)	20	mg/L	268	289	315	292
Total Solids	10	mg/L	1610	1880	1790	1600
Total Volatile Solids	100	mg/L	328	435	294	260
Total Kjeldahl Nitrogen	1.6	mg/L	46	43	48	45
BOD (Biochemical Oxygen Demand)	2	mg/L	122	101	101	91
Chemical Oxygen Demand	18	mg/L	277	223	239	208
pH (grab)		pH Units	7.28	7.33	7.19	7.24
Ammonia-N	.3	mg/L	35.1	33.6	37.0	34.5
Turbidity	.13	NTU	36.7	31.9	36.5	33.4
Total Dissolved Solids	28	mg/L	1560	1810	1720	1550
MBAS (Surfactants)	.03	mg/L	5.78	4.77	4.89	3.77

Source Analyte	MDL	Units	RAW COMP 05-FEB-2013	RAW COMP 07-MAY-2013	RAW COMP 06-AUG-2013	RAW COMP 01-OCT-2013
Total Alkalinity (bicarbonate)	20	mg/L	504	550	430	907
Total Solids		Wt%	3.90	4.10	3.80	3.80
Total Volatile Solids		Wt%	81	80	79	77
Total Kjeldahl Nitrogen	.04	Wt%	3.3	3.5	3.8	3.5
pH (grab)		pH Units	5.88	5.68	5.48	5.21

Source Analyte	MDL	Units	DIG COMP 05-FEB-2013	DIG COMP 07-MAY-2013	DIG COMP 06-AUG-2013	DIG COMP 01-OCT-2013
Total Alkalinity (bicarbonate)	20	mg/L	2640	2630	2150	1920
Total Solids		Wt%	1.90	2.40	2.20	2.05
Total Volatile Solids		Wt%	60	61	59	60
Total Kjeldahl Nitrogen	.04	Wt%	7.5	6.1	6.7	6.8
pH (grab)		pH Units	7.24	7.27	7.27	7.15

POINT LOMA WASTEWATER TREATMENT PLANT
Physical/Aggregate Properties Report

Annual 2013

MBC

Source Analyte	MDL	Units	MBC_COMBCN 05-FEB-2013	MBC_COMBCN 07-MAY-2013	MBC_COMBCN 06-AUG-2013	MBC_COMBCN 01-OCT-2013
Conductivity	10	umhos/cm	5820	5260	5500	6920
HEM (Grease & Oil)	1.2	mg/L	12.3	8.7	10.6	13.9
Total Suspended Solids	1.4	mg/L	585	765	465	475
Volatile Suspended Solids	1.6	mg/L	445	590	340	290
Total Alkalinity (bicarbonate)	20	mg/L	1720	1410	1370	1220
Total Solids		Wt%	0.30	0.30	0.40	0.40
Total Volatile Solids		Wt%	41	50	49	54
Total Kjeldahl Nitrogen	1.6	mg/L	421	450	410	376
BOD (Biochemical Oxygen Demand)	2	mg/L	NR	418	179	309
Chemical Oxygen Demand	18	mg/L	1140	1000	845	638
pH		pH Units	7.80	7.70	7.75	7.79
pH (grab sample)		pH Units	7.70	7.69	7.51	7.46
Ammonia-N	.3	mg/L	399.0	363.0	341.0	331.0

Source Analyte	MDL	Units	MBCDEWCN 28-FEB-2013	MBCDEWCN 31-MAY-2013	MBCDEWCN 31-AUG-2013	MBCDEWCN 31-OCT-2013
Total Solids		Wt%	27.80	26.90	26.80	26.60
Total Volatile Solids		Wt%	59	57	61	61
Total Kjeldahl Nitrogen	.04	Wt%	4.5	4.6	4.7	5.1
pH		pH Units	7.83	7.72	7.55	7.54

Source Analyte	MDL	Units	MBC_NC_DSL 05-FEB-2013	MBC_NC_DSL 07-MAY-2013	MBC_NC_DSL 06-AUG-2013	MBC_NC_DSL 01-OCT-2013
Total Alkalinity (bicarbonate)	20	mg/L	2370	2320	1430	1820
Total Solids		Wt%	2.60	2.90	3.00	3.00
Total Volatile Solids		Wt%	66	67	66	66
Total Kjeldahl Nitrogen	1.6	mg/L	1980	2170	1960	1960
pH		pH Units	7.18	7.23	6.93	7.02

Source Analyte	MDL	Units	MBC_NC_RSL 05-FEB-2013	MBC_NC_RSL 07-MAY-2013	MBC_NC_RSL 06-AUG-2013	MBC_NC_RSL 01-OCT-2013
Total Suspended Solids	1.4	mg/L	6650	6150	6050	7650
Volatile Suspended Solids	1.6	mg/L	5550	4350	4800	6300
Total Alkalinity (bicarbonate)	20	mg/L	337	355	373	389
Total Solids		Wt%	0.60	0.60	0.60	0.60
Total Volatile Solids		Wt%	75	68	70	71
Total Kjeldahl Nitrogen	1.6	mg/L	289	332	286	233
pH		pH Units	7.04	7.14	6.93	7.12

NR= Not required

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			PLE	PLE	PLE	PLE
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649601	P661078	P671076	P677625
Aluminum	47	UG/L	115	181	578	ND
Antimony	2.9	UG/L	ND	ND	ND	ND
Arsenic	.4	UG/L	0.7	0.9	0.9	1.0
Barium	.039	UG/L	26	40	39	36
Beryllium	.022	UG/L	ND	ND	ND	ND
Boron	7	UG/L	392	416	465	348
Cadmium	.53	UG/L	ND	ND	ND	ND
Chromium	1.2	UG/L	<1.2	ND	3.4	ND
Cobalt	.85	UG/L	ND	ND	ND	0.9
Copper	2	UG/L	21	15	12	11
Iron	37	UG/L	3380	2820	2330	2070
Lead	2	UG/L	ND	ND	ND	ND
Manganese	.24	UG/L	100	122	117	107
Mercury	.5	NG/L	5.8	17.5*	12.1	5.7*
Molybdenum	.89	UG/L	5.3	7.1	5.9	6.0
Nickel	.53	UG/L	5.55	7.80	10.50	5.43
Selenium	.28	UG/L	0.83	1.38	0.88	1.04
Silver	.4	UG/L	ND	ND	ND	ND
Thallium	3.9	UG/L	<3.9	ND	ND	ND
Vanadium	.64	UG/L	1.74	1.43	1.60	3.02
Zinc	2.5	UG/L	28	66	27	23
Calcium	.04	MG/L	69.2	80.5	75.9	72.5
Lithium	.002	MG/L	0.03	0.04	0.04	ND
Magnesium	.1	MG/L	50	57	53	44
Potassium	.3	MG/L	26	30	31	25
Sodium	1	MG/L	356	420	396	326
Bromide	.1	MG/L	1.3	1.6	1.4	1.1
Chloride	7	MG/L	579	654	646	571
Fluoride	.1	MG/L	0.82	0.80	0.66	1.10
Nitrate	.04	MG/L	0.46	0.38	0.71	4.09
Ortho Phosphate	.2	MG/L	3.3	4.3	6.2	4.6
Sulfate	9	MG/L	172	224	208	216
Calcium Hardness	.1	MG/L	173	420	189	181
Magnesium Hardness	.4	MG/L	207	216	217	179
Total Hardness	.4	MG/L	379	397	406	360
Cyanide, Total	.002	MG/L	0.003	0.002	0.003	0.003
Sulfides-Total	.4	MG/L	0.6	<0.4	0.6	0.5
Sulfides-Reactive	11	MG/KG	NA	NA	NA	NA
Total Kjeldahl Nitrogen	1.6	MG/L	45.6	43.0	48.0	44.5

* = Spiked matrix samples was 69% below 71%-125% acceptable range

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			PLR	PLR	PLR	PLR
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649607	P661084	P671082	P677631
Aluminum	47	UG/L	953	1110	919	694
Antimony	2.9	UG/L	ND	ND	ND	ND
Arsenic	.4	UG/L	1.2	1.5	1.5	1.4
Barium	.039	UG/L	72	98	96	96
Beryllium	.022	UG/L	ND	ND	ND	ND
Boron	7	UG/L	370	388	389	359
Cadmium	.53	UG/L	ND	ND	ND	ND
Chromium	1.2	UG/L	4.9	5.9	4.6	5.3
Cobalt	.85	UG/L	1.2	ND	ND	1.5
Copper	2	UG/L	118	125	104	119
Iron	37	UG/L	8460	8350	8880	7890
Lead	2	UG/L	5	4	3	4
Manganese	.24	UG/L	109	135	122	121
Mercury	.5	NG/L	181	80*	82.0	116*
Molybdenum	.89	UG/L	5.8	9.3	7.2	9.2
Nickel	.53	UG/L	8.92	11.80	8.58	9.11
Selenium	.28	UG/L	1.54	2.00	1.56	1.62
Silver	.4	UG/L	0.8	0.5	0.8	1.6
Thallium	3.9	UG/L	4.5	ND	ND	ND
Vanadium	.64	UG/L	4.74	4.78	6.00	8.91
Zinc	2.5	UG/L	218	267	199	198
Calcium	.04	MG/L	70.6	82.1	73.6	72.2
Lithium	.002	MG/L	0.03	0.04	0.04	0.04
Magnesium	.1	MG/L	52	59	52	45
Potassium	.3	MG/L	28	31	32	26
Sodium	1	MG/L	352	420	379	312
Bromide	.1	MG/L	1.4	1.6	1.4	1.2
Chloride	7	MG/L	565	651	604	538
Fluoride	.1	MG/L	0.75	1.03	0.65	1.04
Nitrate	.04	MG/L	0.07	0.07	0.09	ND
Ortho Phosphate	.2	MG/L	4.1	5.2	6.2	3.4
Sulfate	9	MG/L	185	237	214	230
Calcium Hardness	.1	MG/L	176	420	184	180
Magnesium Hardness	.4	MG/L	213	256	214	183
Total Hardness	.4	MG/L	390	686	397	363
Cyanide, Total	.002	MG/L	0.002	ND	ND	ND
Sulfides-Total	.4	MG/L	1.6	1.8	3.3	2.0
Total Kjeldahl Nitrogen	1.6	MG/L	56.5	52.1	61.9	56.4

* = Spiked matrix samples was 69% below 71%-125% acceptable range

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649618	P661095	P671093	P677642
Aluminum	47	UG/L	1790	1620	1260	505
Antimony	2.9	UG/L	ND	4	ND	6
Arsenic	.4	UG/L	2.7	2.9	2.7	1.9
Barium	.039	UG/L	164	174	176	119
Beryllium	.022	UG/L	ND	ND	ND	0.05
Boron	7	UG/L	351	346	366	356
Cadmium	.53	UG/L	ND	ND	ND	ND
Chromium	1.2	UG/L	15.9	14.5	10.4	5.5
Cobalt	.85	UG/L	4.6	5.2	5.0	5.0
Copper	2	UG/L	219	207	160	73
Iron	37	UG/L	37800	29400	30400	22300
Lead	2	UG/L	9	6	5	9
Manganese	.24	UG/L	265	304	314	268
Mercury	.5	NG/L	14.0	72.7	82.7	111
Molybdenum	.89	UG/L	7.2	8.0	7.6	2.9
Nickel	.53	UG/L	30.7	39.0	28.5	24.7
Selenium	.28	UG/L	2.53	4.17	2.44	1.90
Silver	.4	UG/L	3.0	0.4	0.5	0.5
Thallium	3.9	UG/L	4.5	ND	ND	8.3
Vanadium	.64	UG/L	9.74	6.44	8.30	7.04
Zinc	2.5	UG/L	340	360	255	113
Calcium	.04	MG/L	172	145	169	184
Lithium	.002	MG/L	0.03	0.05	0.05	0.05
Magnesium	.1	MG/L	62	58	61	66
Potassium	.3	MG/L	58	50	49	46
Sodium	1	MG/L	298	303	314	291
Bromide	.1	MG/L	1.0	1.0	1.0	0.7
Chloride	7	MG/L	808	849	972	968
Fluoride	.1	MG/L	ND	ND	ND	ND
Nitrate	.04	MG/L	0.90	0.22	0.27	0.09
Ortho Phosphate	.2	MG/L	9.4	21.8	14.8	7.7
Sulfate	9	MG/L	31	33	22	23
Calcium Hardness	.1	MG/L	431	303	422	460
Magnesium Hardness	.4	MG/L	256	145	253	270
Total Hardness	.4	MG/L	686	323	675	730
Cyanide, Total	.002	MG/L	0.004	0.005	0.002	0.003
Sulfides-Total	.4	MG/L	3.7	5.5	5.8	3.0
Total Kjeldahl Nitrogen	1.6	MG/L	421	450	410	376

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_COMBCN = Combined Sludge Centrate

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649672	P661149	P671147	P677696
Aluminum	47	UG/L	229000	223000	186000	189000
Antimony	2.9	UG/L	55	247	76	148
Arsenic	.4	UG/L	149	200	170	22.9
Barium	.039	UG/L	7740	8930	3880	4600
Beryllium	.022	UG/L	3.19	ND	0.51	3.22
Boron	7	UG/L	1120	641	487	819
Cadmium	.53	UG/L	8.6	ND	17.8	13.6
Chromium	1.2	UG/L	1280	1500	1060	768
Cobalt	.85	UG/L	52.6	92.6	137	217
Copper	2	UG/L	15700	17600	18000	19100
Iron	37	UG/L	2810000	2440000	2750000	2470000
Lead	2	UG/L	359	431	459	669
Manganese	.24	UG/L	10100	9440	8880	6900
Mercury	.5	NG/L	1380	12800	5790	15200
Molybdenum	.89	UG/L	513	515	495	443
Nickel	.53	UG/L	829	1240	1050	1040
Selenium	.28	UG/L	99.6	130	124	13.3
Silver	.4	UG/L	123	149	91.9	90.9
Thallium	3.9	UG/L	39.2	33.3	15.3	ND
Vanadium	.64	UG/L	562	460	1260	2000
Zinc	2.5	UG/L	16700	19800	19600	14300
Calcium	.04	MG/L	180	147	260	66.4
Lithium	.002	MG/L	0.04	0.05	0.06	0.04
Magnesium	.1	MG/L	69	66	83	36
Potassium	.3	MG/L	66	62	69	27
Sodium	1	MG/L	174	192	218	180
Bromide	.1	MG/L	0.6	0.2	<0.3	0.2
Chloride	7	MG/L	1300	93	2100	350
Fluoride	.1	MG/L	ND	0.16	0.72	0.22
Nitrate	.04	MG/L	0.16	ND	0.18	0.07
Ortho Phosphate	.2	MG/L	ND	8.7	ND	21.7
Sulfate	9	MG/L	27	21	21	22
Calcium Hardness	.1	MG/L	NR	NR	NR	166
Magnesium Hardness	.4	MG/L	NR	NR	NR	149
Total Hardness	.4	MG/L	NR	NR	NR	315
Cyanide, Total	.002	MG/L	0.014	0.013	0.013	0.010
Sulfides-Total	.4	MG/L	317	577	627	647
Sulfides-Reactive	11	MG/KG	84	124	133	126
Total Kjeldahl Nitrogen	1.6	MG/L	1980	2170	1960	1960

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_NC_DSL = Combined North City Digested Sludge Line

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649670	P661147	P671145	P677694
Aluminum	47	UG/L	17000	37400	18700	26900
Antimony	2.9	UG/L	15	10	ND	17
Arsenic	.4	UG/L	8.5	21.0	17.0	31.9
Barium	.039	UG/L	930	1450	1220	771
Beryllium	.022	UG/L	0.16	ND	0.03	0.28
Boron	7	UG/L	470	815	298	316
Cadmium	.53	UG/L	1.7	ND	2.0	1.7
Chromium	1.2	UG/L	134	198	91.8	81.7
Cobalt	.85	UG/L	5.2	17.0	21.5	16.2
Copper	2	UG/L	1730	2600	1870	1680
Iron	37	UG/L	233000	280000	235000	167000
Lead	2	UG/L	48	54	67	47
Manganese	.24	UG/L	1060	1410	784	709
Mercury	.5	NG/L	357	10600	852	2600
Molybdenum	.89	UG/L	46.3	59.2	66.5	34.0
Nickel	.53	UG/L	89.0	199	115	126
Selenium	.28	UG/L	7.45	17.2	17.9	11.2
Silver	.4	UG/L	12.2	31.1	15.0	15.3
Thallium	3.9	UG/L	8.9	28.8	7.4	ND
Vanadium	.64	UG/L	61.8	56.8	133.0	165.0
Zinc	2.5	UG/L	2200	3220	2600	1630
Calcium	.04	MG/L	60.0	73.5	77.0	65.5
Lithium	.002	MG/L	0.03	0.04	0.05	0.05
Magnesium	.1	MG/L	35	38	36	34
Potassium	.3	MG/L	29	30	28	25
Sodium	1	MG/L	174	189	180	169
Bromide	.1	MG/L	0.1	0.4	0.4	0.2
Chloride	7	MG/L	301	342	332	351
Fluoride	.1	MG/L	0.49	0.43	0.38	0.26
Nitrate	.04	MG/L	0.11	0.20	0.16	0.21
Ortho Phosphate	.2	MG/L	25.4	31.0	49.7	25.4
Sulfate	9	MG/L	35	34	21	21
Calcium Hardness	.1	MG/L	NR	NR	NR	164
Magnesium Hardness	.4	MG/L	NR	NR	NR	141
Total Hardness	.4	MG/L	NR	NR	NR	305
Cyanide, Total	.002	MG/L	0.002	0.004	0.003	0.003
Sulfides-Total	.4	MG/L	30.6	77.4	125.0	62.9
Sulfides-Reactive	11	MG/KG	15	41	65	23
Total Kjeldahl Nitrogen	1.6	MG/L	289	332	286	233

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_NC_RSL = Combined North City Raw Sludge Line

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			RAW COMP	RAW COMP	RAW COMP	RAW COMP
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649643	P661120	P671118	P677667
Aluminum	4	MG/KG	2100	3000	2220	2340
Antimony	.5	MG/KG	3.1	ND	ND	2.5
Arsenic	.68	MG/KG	1.65	2.13	1.42	2.37
Barium	.05	MG/KG	150.0	174.0	48.5	176.0
Beryllium	.02	MG/KG	0.02	0.03	ND	ND
Boron	.7	MG/KG	8.3	15.0	6.9	12.3
Cadmium	.1	MG/KG	0.70	0.70	0.80	0.70
Chromium	.3	MG/KG	18.8	30.0	19.3	15.5
Cobalt	.2	MG/KG	1.0	1.8	1.5	2.9
Copper	.4	MG/KG	295	376	317	319
Iron	20	MG/KG	34500	37000	38300	44600
Lead	2	MG/KG	8.0	15.0	10.0	13.0
Manganese	.2	MG/KG	135	114	112	112
Mercury	.2	MG/KG	0.46	0.43	0.88	0.49
Molybdenum	.1	MG/KG	6.2	9.6	8.8	9.0
Nickel	.3	MG/KG	18	19	14	16
Selenium	.47	MG/KG	2.01	2.95	1.71	3.62
Silver	.07	MG/KG	4.6	2.3	1.6	2.6
Thallium	1	MG/KG	ND	1	ND	3
Vanadium	.2	MG/KG	16.2	13.7	16.0	28.7
Zinc	.5	MG/KG	467	624	441	426
Bromide	3	MG/KG	88.1	183	118	409
Chloride	180	MG/KG	31600	28300	43900	38900
Fluoride	1.3	MG/KG	ND	ND	ND	ND
Nitrate	1	MG/KG	2.71	5.61	ND	ND
Ortho Phosphate	4	MG/KG	39	1230	647	581
Sulfate	220	MG/KG	667	488	554	563
Cyanide, Total	.1	MG/KG	4.33	2.90	3.50	3.60
Cyanide, Releaseable	.018	MG/KG	ND	ND	ND	ND
Sulfides-Total	500	MG/KG	6090	23600	30100	12900
Sulfides-Reactive	11	MG/KG	52	100	109	104
Total Kjeldahl Nitrogen	.04	WT%	3.25	3.51	3.79	3.54

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

RAW COMP = Point Loma Raw Sludge Composite

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			DIG COMP	DIG COMP	DIG COMP	DIG COMP
Date:			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Sample ID:	MDL	Units	P649657	P661134	P671132	P677681
Aluminum	4	MG/KG	4360	4360	4250	3850
Antimony	.5	MG/KG	4.2	ND	ND	3.3
Arsenic	.68	MG/KG	3.30	3.45	2.49	4.39
Barium	.05	MG/KG	290.0	261.0	67.6	281.0
Beryllium	.02	MG/KG	0.08	0.07	0.05	0.03
Boron	.7	MG/KG	25.8	19.8	15.2	26.2
Cadmium	.1	MG/KG	1.30	1.00	1.30	1.10
Chromium	.3	MG/KG	40.8	46.8	38.1	26.9
Cobalt	.2	MG/KG	2.2	2.2	3.3	5.8
Copper	.4	MG/KG	604	615	609	582
Iron	20	MG/KG	73400	70700	71700	81100
Lead	2	MG/KG	18.0	16.0	19.0	24.0
Manganese	.2	MG/KG	322	250	211	212
Mercury	.2	MG/KG	0.72	0.47	0.97	2.42
Molybdenum	.1	MG/KG	12.8	14.0	18.2	15.9
Nickel	.3	MG/KG	33	34	31	32
Selenium	.47	MG/KG	4.22	4.72	3.01	6.98
Silver	.07	MG/KG	11.0	3.9	3.6	4.0
Thallium	1	MG/KG	ND	2	ND	2
Vanadium	.2	MG/KG	32.5	21.4	34.5	47.0
Zinc	.5	MG/KG	880	791	792	702
Bromide	3	MG/KG	81.1	75.0	71.0	58.0
Chloride	180	MG/KG	64300	55200	66500	72700
Fluoride	1.3	MG/KG	ND	14.2	42.8	38.1
Nitrate	1	MG/KG	9.45	17.10	8.50	ND
Ortho Phosphate	4	MG/KG	574	1220	50	59
Sulfate	220	MG/KG	1380	958	948	1120
Cyanide, Total	.1	MG/KG	9.66	8.75	9.90	10.50
Cyanide, Releaseable	.018	MG/KG	ND	ND	ND	ND
Sulfides-Total	500	MG/KG	12600	17500	23500	22400
Sulfides-Reactive	11	MG/KG	76	114	134	126
Total Kjeldahl Nitrogen	.04	WT%	7.50	6.13	6.69	6.78

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

DIG COMP = Point Loma Digested Sludge Composite

POINT LOMA WASTEWATER TREATMENT PLANT

(Metals from Digestion and Ions from Supernatant)

Annual 2013

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013
Sample ID:	MDL	Units	P653392	P664036	P674861	P682539
Aluminum	4	MG/KG	5080	5970	4820	4090
Antimony	.5	MG/KG	3.7	ND	ND	1.8
Arsenic	.68	MG/KG	4.32	5.25	3.25	2.83
Barium	.05	MG/KG	254.0	358.0	54.2	98.1
Beryllium	.02	MG/KG	0.10	0.11	0.05	ND
Boron	.7	MG/KG	9.7	47.2	6.9	7.8
Cadmium	.1	MG/KG	1.30	1.20	1.35	1.06
Chromium	.3	MG/KG	46.9	62.5	40.8	33.4
Cobalt	.2	MG/KG	2.2	2.5	3.6	6.9
Copper	.4	MG/KG	656	746	656	677
Iron	20	MG/KG	80200	93100	88300	95200
Lead	2	MG/KG	18.5	17.0	20.0	26.8
Manganese	.2	MG/KG	346	326	240	252
Mercury	.2	MG/KG	1.15	1.29	1.01	1.14
Molybdenum	.1	MG/KG	14.2	19.5	18.8	20.8
Nickel	.3	MG/KG	36	41	31	37
Selenium	.47	MG/KG	4.52	4.91	4.11	4.58
Silver	.07	MG/KG	8.9	5.3	4.0	5.3
Thallium	1	MG/KG	ND	ND	ND	ND
Vanadium	.2	MG/KG	32.2	26.5	44.0	59.8
Zinc	.5	MG/KG	784	1180	972	839
Cyanide, Total	.1	MG/KG	21.0	2.55	1.70	1.50
Cyanide, Releaseable	.018	MG/KG	0.04	ND	ND	ND
Sulfides-Total	500	MG/KG	16700	19700	23500	22400
Sulfides-Reactive	11	MG/KG	89	101	148	35
Total Kjeldahl Nitrogen	.04	WT%	4.54	4.57	4.74	5.07

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBCDEWCN = MBC Dewatered Sludge Composite

POINT LOMA WASTEWATER TREATMENT PLANT
Radioactivity

Analyzed by: TestAmerica Laboratories Richland
Method: EPA 00-02 or EPA 900.0

Annual 2013

Source	Sample Date	Sample ID	Gross Alpha Radiation pCi/L	Gross Beta Radiation pCi/L
PLE	05-FEB-2013	P649601	1.9±7.6	25.8±7.6
PLE	07-MAY-2013	P661078	-1.6±10.0	33.5±14.0
PLE	06-AUG-2013	P671076	-3.1±8.6	24.9±9.1
PLE	01-OCT-2013	P677625	-2.4±6.9	31.9±9.3
PLR	05-FEB-2013	P649607	1.2±7.3	34.0±8.8
PLR	07-MAY-2013	P661084	4.3±10.5	31.0±8.8
PLR	06-AUG-2013	P671082	2.0±8.6	30.6±10.1
PLR	01-OCT-2013	P677631	7.1±8.6	33.4±8.4
MBC_COMBCN	05-FEB-2013	P649618	-1.2±8.9	52.9±13.0
MBC_COMBCN	07-MAY-2013	P661095	-3.4±14.0	40.4±18.0
MBC_COMBCN	06-AUG-2013	P671093	9.8±13.0	45.1±16.0
MBC_COMBCN	01-OCT-2013	P677642	0.4±7.7	56.2±12.0

Units in picocuries per Liter (pCi/L)

Source	Sample Date	Sample ID	Gross Alpha Radiation pCi/kg	Gross Beta Radiation pCi/kg
MBCDEWCN	28-FEB-2013	P653392	2450±3900	10200±2100
MBCDEWCN	31-MAY-2013	P664036	494±405	8790±1950
MBCDEWCN	31-AUG-2013	P674861	9820±3750	8750±2300
MBCDEWCN	31-OCT-2013	P682539	2350±3800	8640±2000

Units in picocuries per Kilogram (pCi/Kg)

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2013

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013
Analyte	MDL	Units	P649601	P661078	P671076	P677625	P649607	P661084
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Cis Nonachlor	5	NG/L	ND	ND	NA	ND	ND	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	16.5	ND	ND	ND	16.0	ND
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	3	NG/L	ND	ND	NA	ND	ND	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	15	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	ND	ND	NA	ND	ND	ND
Heptachlors	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	5	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	100	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	20	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	10	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	1300	NG/L	16.5	0.0	0.0	0.0	16.0	0.0

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2013

Source			PLR	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P671082	P677631	P649618	P661095	P671093	P677642
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Cis Nonachlor	5	NG/L	NA	ND	ND	ND	NA	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	3	NG/L	NA	ND	ND	ND	NA	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	15	NG/L	ND	DNQ3.0	DNQ31.0	ND	ND	DNQ89.0
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	NA	ND	ND	ND	NA	ND
Heptachlors	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	5	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	100	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	20	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	10	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

ND=not detected
NS=not sampled
NA=not analyzed

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2013

Source			MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P649672	P661149	P671147	P677696
Aldrin	8	NG/L	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA
Cis Nonachlor	5	NG/L	ND	ND	NA	ND
Dieldrin	10	NG/L	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND
Endrin	10	NG/L	ND	ND	ND	ND
Endrin aldehyde	10	NG/L	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	DNQ40.0	ND	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND
o,p-DDT	100	NG/L	ND	ND	ND	ND
Oxychlordane	3	NG/L	ND	ND	NA	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND
p,p-DDE	15	NG/L	DNQ34.0	DNQ66.0	ND	DNQ69.0
p,p-DDT	20	NG/L	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	ND	ND	NA	ND
Heptachlors	15	NG/L	0.0	0.0	0.0	0.0
Endosulfans	15	NG/L	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	1300	NG/L	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	5	NG/L	0.0	0.0	0.0	0.0
DDT and derivatives	100	NG/L	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	20	NG/L	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	10	NG/L	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	1300	NG/L	0.0	0.0	0.0	0.0

ND=not detected
NS=not sampled
NA=not analyzed

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2013

Source			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	RAW COMP	RAW COMP
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013
Analyte	MDL	Units	P649670	P661147	P671145	P677694	P649643	P661120
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	DNQ150.0
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	DNQ110.0
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Cis Nonachlor	5	NG/L	ND	ND	NA	ND	ND	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	ND	ND	DNQ79.0	ND
o,p-DDE	100	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	3	NG/L	ND	ND	NA	ND	ND	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	15	NG/L	46.0	DNQ57.0	ND	ND	DNQ170.0	DNQ210.0
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	ND	ND	NA	ND	ND	ND
Heptachlors	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	5	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	100	NG/L	46.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	20	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	10	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	1300	NG/L	46.0	0.0	0.0	0.0	0.0	0.0

ND=not detected
NS=not sampled
NA=not analyzed

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2013

Source			RAW COMP	RAW COMP	DIG COMP	DIG COMP	DIG COMP	DIG COMP
Date			06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P671118	P677667	P649657	P661134	P671132	P677681
Aldrin	8	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	13	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	20	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	18	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	2	NG/L	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA
Cis Nonachlor	5	NG/L	NA	ND	ND	ND	NA	ND
Dieldrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	15	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	15	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin	10	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	10	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	15	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	13	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	18	NG/L	ND	ND	ND	ND	ND	ND
Mirex	10	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/L	ND	ND	DNQ66.5	DNQ64.0	ND	ND
o,p-DDE	100	NG/L	ND	DNQ62.0	ND	ND	ND	DNQ60.0
o,p-DDT	100	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	3	NG/L	NA	ND	ND	ND	NA	ND
PCB 1016	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	1300	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	1300	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	20	NG/L	ND	ND	ND	ND	ND	DNQ53.5
p,p-DDE	15	NG/L	ND	DNQ110.0	DNQ62.5	DNQ110.0	ND	DNQ165.0
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	1300	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	3	NG/L	NA	ND	ND	ND	NA	ND
Heptachlors	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	15	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	5	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	100	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	20	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	10	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	1300	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

ND=not detected
NS=not sampled
NA=not analyzed

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source Date Analyte	MDL	Units	MBCDEWCN 31-JAN-2013 P649993	MBCDEWCN 28-FEB-2013 P653392	MBCDEWCN 31-MAR-2013 P657413	MBCDEWCN 30-APR-2013 P660574	MBCDEWCN 31-MAY-2013 P664036
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	1000	NG/KG	10600	ND	19600	ND	19300
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	9030	ND	18400	ND	17800
o,p-DDE	1100	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	18300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	ND	ND	14700	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	8630	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	19630	0	38000	0	37100
Chlordane + related cmpds.	3200	NG/KG	0	0	33000	0	0
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	19630	0	79630	0	37100

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			30-JUN-2013	31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013
Analyte	MDL	Units	P667050	P669948	P674861	P677800	P682539
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	4300	ND	ND	ND
p,p-DDE	1000	NG/KG	41500	38300	18800	ND	ND
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11300	8360	ND	ND
o,p-DDE	1100	NG/KG	ND	5440	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	31600	15000	12300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	17600	8960	13100	ND	2950
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	14200	11000	1810	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	41500	59340	27160	0	0
Chlordane + related cmpds.	3200	NG/KG	49200	23960	25400	0	2950
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	104900	94300	54370	0	2950

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	
Date			30-NOV-2013	31-DEC-2013	Annual
Analyte	MDL	Units	P687315	P690536	Average
Aldrin	10000	NG/KG	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	358
p,p-DDE	1000	NG/KG	9580	15100	14398
p,p-DDT	2200	NG/KG	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11600	6374
o,p-DDE	1100	NG/KG	ND	ND	453
o,p-DDT	800	NG/KG	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	6433
Gamma (trans) Chlordane	800	NG/KG	ND	ND	4776
Alpha Chlordene		NG/KG	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	2970
Cis Nonachlor	1600	NG/KG	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0
DDT and derivatives	2200	NG/KG	9580	26700	21584
Chlordane + related cmpds.	3200	NG/KG	0	0	11209
Polychlorinated biphenyls	20000	NG/KG	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	9580	26700	35763

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645663	P649601	P654931	P658831	P661078	P664851
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.05	DNQ0.05	ND	DNQ0.12	ND	0.55
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	<0.03	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667691	P671076	P675373	P677625	P683396	P686942
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.19	DNQ0.13	ND	ND	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645666	P649607	P654934	P658834	P661084	P664854
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.04	ND	ND	ND	ND	0.50
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	DNQ0.1	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667694	P671082	P675376	P677631	P683399	P686945
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.15	DNQ0.13	ND	DNQ0.04	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	DNQ0.1
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	DNQ0.03	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_COMBCN	MBC_COMBCN
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661095	P677642
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			MBC_NC_DSL	MBC_NC_DSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661149	P677696
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_NC_RSL	MBC_NC_RSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661147	P677694
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			RAW COMP	RAW COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661120	P677667
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			DIG COMP	DIG COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661134	P677681
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	DNQ2.5	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

METROBIOSOLIDS CENTER

ORGANOPHOSPHORUS PESTICIDES

2013 Annual

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2013	31-OCT-2013
Analyte	MDL	Units	P664036	P682539
Demeton O	67	UG/KG	ND	ND
Demeton S	27	UG/KG	ND	ND
Diazinon		UG/KG	ND	DNQ16.1
Guthion	33	UG/KG	ND	ND
Malathion	20	UG/KG	ND	ND
Parathion	20	UG/KG	ND	ND
Chlorpyrifos		UG/KG	DNQ64.4	248.0
Coumaphos	33	UG/KG	ND	ND
Dichlorvos	17	UG/KG	ND	ND
Dimethoate	27	UG/KG	ND	ND
Disulfoton	20	UG/KG	ND	ND
Stirophos	20	UG/KG	ND	ND
Thiophosphorus Pesticides	33	UG/KG	0.0	0.0
Demeton -O, -S	67	UG/KG	0.0	0.0
Total Organophosphorus Pesticides	67	UG/KG	0.0	248.0

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Tributyl Tin (Sewage)

Annual 2013

Source	PLE	PLE	PLE	PLE	PLR	PLR	PLR
Date	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013
Analyte	P649601	P661078	P671076	P677625	P649607	P661084	P671082
Monobutyltin	ND	ND	ND	ND	ND	ND	ND
Tributyltin	ND	ND	ND	ND	ND	ND	ND

Source	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBCDEWCN	MBCDEWCN
Date	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	31-MAY-2013	31-OCT-2013
Analyte	P677631	P649618	P661095	P671093	P677642	P664036	P682539
Monobutyltin	ND	ND	ND	ND	ND	ND	ND
Tributyltin	ND	ND	ND	ND	ND	ND	ND

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Herbicide Analysis

2013 Annual

Source:			MBCDEWCN	MBCDEWCN
Date:			31-MAY-2013	31-OCT-2013
Sample:	MDL	Units	P664036	P682539
2,4-Dichlorophenoxyacetic acid	.0696	MG/KG	ND	ND
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
PRIORITY POLLUTANT ANALYSIS-ACID EXTRACTABLE COMPOUNDS, EPA Method 625

Annual 2013

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013
Analyte	MDL	Units	P649601	P661078	P671076	P677625	P649607	P661084
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND
Phenol	1.76	UG/L	25.1	22.0	24.0	16.4	23.3	20.6
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	25.1	22.0	24.0	16.4	23.3	20.6
Phenols	2.16	UG/L	25.1	22.0	24.0	16.4	23.3	20.6

Additional Analytes Determined;

2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	67.1	51.9	56.4	38.8	54.3	49.4
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND

Source			PLR	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P671082	P677631	P649618	P661095	P671093	P677642
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	18.9	2.7	3.2
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND
Phenol	1.76	UG/L	24.9	23.1	7.2	5.9	ND	9.5
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	24.9	23.1	7.2	24.8	2.7	12.7
Phenols	2.16	UG/L	24.9	23.1	7.2	24.8	2.7	12.7

Additional Analytes Determined;

2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	55.1	41.5	ND	ND	ND	3.6
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
PRIORITY POLLUTANT ANALYSIS-ACID EXTRACTABLE COMPOUNDS, EPA Method 625

Annual 2013

Source Date Analyte	MDL	Units	RAW COMP 05-FEB-2013 P649643	RAW COMP 07-MAY-2013 P661120	RAW COMP 06-AUG-2013 P671118	RAW COMP 01-OCT-2013 P677667	DIG COMP 05-FEB-2013 P649657	DIG COMP 07-MAY-2013 P661134
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND
Phenol	1.76	UG/L	70.2	38.3	61.6	69.3	ND	ND
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	70.2	38.3	61.6	69.3	0.0	0.0
Phenols	2.16	UG/L	70.2	38.3	61.6	69.3	0.0	0.0
Additional Analytes Determined;								
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	451	252	281	1040	2.9	ND
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND

Source Date Analyte	MDL	Units	DIG COMP 06-AUG-2013 P671132	DIG COMP 01-OCT-2013 P677681	MBC_NC_DSL 05-FEB-2013 P649672	MBC_NC_DSL 07-MAY-2013 P661149	MBC_NC_DSL 06-AUG-2013 P671147	MBC_NC_DSL 01-OCT-2013 P677696
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND	ND	ND
Phenol	1.76	UG/L	ND	ND	2.2	ND	ND	ND
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	0.0	0.0	2.2	0.0	0.0	0.0
Phenols	2.16	UG/L	0.0	0.0	2.2	0.0	0.0	0.0
Additional Analytes Determined;								
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	3.0	DNQ5.3	3.9	ND	3.1	12.1
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT
PRIORITY POLLUTANT ANALYSIS-ACID EXTRACTABLE COMPOUNDS, EPA Method 625

Annual 2013

Source			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P649670	P661147	P671145	P677694
2-Chlorophenol	1.32	UG/L	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND	ND
Phenol	1.76	UG/L	8.2	ND	11.7	ND
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	8.2	0.0	11.7	0.0
Phenols	2.16	UG/L	8.2	0.0	11.7	0.0

Additional Analytes Determined;

2-Methylphenol	2.15	UG/L	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	60.0	174.0	226.0	91.6
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013
Analyte	MDL	Units	P653392	P664036	P674861	P682539
2-Chlorophenol	330	UG/KG	ND	ND	ND	ND
4-Chloro-3-methylphenol	330	UG/KG	ND	ND	ND	ND
2,4-Dichlorophenol	330	UG/KG	ND	ND	ND	ND
2,4-Dimethylphenol	330	UG/KG	ND	ND	ND	ND
2,4-Dinitrophenol	330	UG/KG	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	800	UG/KG	ND	ND	ND	ND
2-Nitrophenol	330	UG/KG	ND	ND	ND	ND
4-Nitrophenol	800	UG/KG	ND	ND	ND	ND
Pentachlorophenol	800	UG/KG	ND	ND	ND	ND
Phenol	330	UG/KG	5360	6580	3890	3450
2,4,6-Trichlorophenol	330	UG/KG	ND	ND	ND	ND
Total Chlorinated Phenols	800	UG/KG	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	800	UG/KG	5360	6580	3890	3450
Phenols	800	UG/KG	5360	6580	3890	3450

Additional Analytes Determined;

2-Methylphenol	330	UG/KG	ND	ND	1570	ND
4-Methylphenol(3-MP is unresolved)	330	UG/KG	1190	992	1420	1570
2,4,5-Trichlorophenol	800	UG/KG	ND	ND	ND	ND

nd= not detected, NA= not analyzed NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE Priority Pollutants Purgeable Compounds, EPA Method 624
Annual 2013

Source			PLR	PLR	PLR	PLR	PLE	PLE
Date			20-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	20-FEB-2013	07-MAY-2013
Analyte	MDL	Units	P652773	P661087	P671085	P677634	P652772	P661081
Acrolein	1.3	UG/L	ND	ND	ND	ND	ND	ND
Acrylonitrile	.7	UG/L	ND	ND	ND	ND	ND	ND
Benzene	.4	UG/L	ND	ND	ND	ND	ND	ND
Bromodichloromethane	.5	UG/L	ND	ND	ND	ND	ND	DNQ0.5
Bromoform	.5	UG/L	ND	ND	ND	ND	ND	ND
Bromomethane	.7	UG/L	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	.4	UG/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND
Chloroethane	.9	UG/L	ND	ND	ND	ND	ND	ND
Chloroform	.2	UG/L	2.1	2.1	2.3	2.1	5.6	5.9
Chloromethane	.5	UG/L	ND	ND	ND	ND	4.6	4.9
Dibromochloromethane	.6	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	.5	UG/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	.4	UG/L	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	.6	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	.3	UG/L	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	.3	UG/L	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	.5	UG/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	.3	UG/L	DNQ0.5	DNQ0.8	DNQ0.8	ND	ND	ND
Methylene chloride	.3	UG/L	ND	1.2	1.1	1.1	1.4	1.5
1,1,2,2-Tetrachloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.1	UG/L	ND	ND	ND	ND	ND	ND
Toluene	.4	UG/L	DNQ0.8	DNQ0.6	DNQ0.7	DNQ0.5	DNQ1.0	DNQ0.9
1,1,1-Trichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
Trichloroethene	.7	UG/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	.3	UG/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	.4	UG/L	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	.7	UG/L	0.0	0.0	0.0	0.0	4.6	4.9
Total Dichlorobenzenes	.5	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	1.3	UG/L	2.1	3.3	3.4	3.2	11.6	12.3

Additional Analytes Determined;

Acetone	4.5	UG/L	353	534	1690	430	612	558
Allyl chloride	.6	UG/L	ND	ND	ND	ND	ND	ND
Benzyl chloride	1.1	UG/L	ND	ND	ND	ND	ND	ND
2-Butanone	6.3	UG/L	DNQ6.4	10.8	DNQ6.8	ND	DNQ9.3	DNQ6.5
Carbon disulfide	.6	UG/L	1.1	1.4	1.7	1.9	2.1	1.7
Chloroprene	.4	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	.3	UG/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene	.3	UG/L	ND	ND	ND	ND	ND	ND
Methyl Iodide	.6	UG/L	ND	ND	ND	ND	ND	ND
Methyl methacrylate	.8	UG/L	ND	ND	ND	ND	ND	ND
2-Nitropropane	12	UG/L	ND	ND	ND	ND	ND	ND
ortho-xylene	.4	UG/L	ND	DNQ0.5	ND	ND	ND	ND
Styrene	.3	UG/L	DNQ0.7	ND	DNQ0.4	ND	ND	ND
1,2,4-Trichlorobenzene	.7	UG/L	ND	ND	ND	ND	ND	ND
meta,para xylenes	.6	UG/L	ND	DNQ1.2	ND	ND	ND	ND
2-Chloroethylvinyl ether	1.1	UG/L	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1.3	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE Priority Pollutants Purgeable Compounds, EPA Method 624
Annual 2013

Source			PLE	PLE	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			06-AUG-2013	01-OCT-2013	19-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P671079	P677628	P652768	P661098	P671096	P677645
Acrolein	1.3	UG/L	ND	ND	ND	ND	ND	ND
Acrylonitrile	.7	UG/L	ND	ND	ND	ND	ND	ND
Benzene	.4	UG/L	ND	ND	ND	ND	ND	ND
Bromodichloromethane	.5	UG/L	DNQ0.5	DNQ0.9	ND	ND	ND	ND
Bromoform	.5	UG/L	ND	ND	ND	ND	ND	ND
Bromomethane	.7	UG/L	1.7	2.3	ND	ND	ND	ND
Carbon tetrachloride	.4	UG/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	.4	UG/L	ND	DNQ0.7	ND	ND	ND	ND
Chloroethane	.9	UG/L	2.5	4.5	ND	ND	ND	ND
Chloroform	.2	UG/L	7.8	10.8	1.3	2.3	2.0	2.0
Chloromethane	.5	UG/L	19.9	45.0	ND	ND	ND	ND
Dibromochloromethane	.6	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	.4	UG/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	.5	UG/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	.4	UG/L	ND	<0.4	1.0	ND	DNQ0.4	DNQ0.6
1,1-Dichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	.4	UG/L	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	.6	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	.3	UG/L	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	.3	UG/L	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	.5	UG/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	.3	UG/L	ND	ND	ND	DNQ0.4	DNQ0.4	DNQ0.6
Methylene chloride	.3	UG/L	2.3	1.5	ND	ND	DNQ0.8	1.2
1,1,2,2-Tetrachloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.1	UG/L	ND	ND	ND	ND	ND	ND
Toluene	.4	UG/L	DNQ0.9	1.4	6.2	1.6	DNQ0.9	1.4
1,1,1-Trichloroethane	.4	UG/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	.5	UG/L	ND	ND	ND	ND	ND	ND
Trichloroethene	.7	UG/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	.3	UG/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	.4	UG/L	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	.7	UG/L	22.1	48.2	0.0	0.0	0.0	0.0
Total Dichlorobenzenes	.5	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	1.3	UG/L	34.2	65.5	8.5	3.9	2.0	4.6

Additional Analytes Determined;

Acetone	4.5	UG/L	500	609	188	182	85.7	122
Allyl chloride	.6	UG/L	ND	ND	ND	ND	ND	ND
Benzyl chloride	1.1	UG/L	ND	DNQ1.8	ND	ND	ND	ND
2-Butanone	6.3	UG/L	DNQ8.9	ND	10.6	DNQ6.8	ND	ND
Carbon disulfide	.6	UG/L	3.1	3.5	0.6	1.2	1.4	2.4
Chloroprene	.4	UG/L	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	.3	UG/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene	.3	UG/L	ND	ND	ND	ND	ND	ND
Methyl Iodide	.6	UG/L	ND	ND	ND	ND	ND	ND
Methyl methacrylate	.8	UG/L	ND	ND	ND	ND	ND	ND
2-Nitropropane	12	UG/L	ND	ND	ND	ND	ND	ND
ortho-xylene	.4	UG/L	ND	ND	ND	ND	ND	ND
Styrene	.3	UG/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	.7	UG/L	ND	ND	ND	ND	ND	ND
meta,para xylenes	.6	UG/L	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	1.1	UG/L	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1.3	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE Priority Pollutants Purgeable Compounds, EPA Method 624
Annual 2013

Source			DIG COMP	DIG COMP	DIG COMP	RAW COMP	RAW COMP	RAW COMP
Date			07-MAY-2013	06-AUG-2013	01-OCT-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P661134	P671132	P677681	P661120	P671118	P677667
Acrolein	6.4	UG/KG	ND	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	ND	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	DNQ203	215	DNQ98.1	109	163	DNQ125
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	DNQ196	251	DNQ168	DNQ42.7	DNQ89.2	DNQ79.1
Methylene chloride	3.5	UG/KG	ND	ND	ND	ND	ND	159
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	DNQ91.8	DNQ94.5	DNQ96.7	165	222	639
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Total Dichlorobenzenes	1.8	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	0.0	466	0.0	274	385	798

Additional Analytes Determined;

Analyte	MDL	Units	P661134	P671132	P677681	P661120	P671118	P677667
Acetone	31.4	UG/KG	2850	4650	ND	6120	39300	20600
Allyl chloride	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	DNQ848	DNQ1650	ND	1150	6740	5720
Carbon disulfide	4.7	UG/KG	DNQ109	213	DNQ197	DNQ42.9	182	148
Chloroprene	3.1	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	ND	DNQ18.1	ND	ND	DNQ42.7
Methyl Iodide	3.8	UG/KG	ND	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	ND	DNQ70.4	DNQ32.2	DNQ46.2	DNQ110	DNQ63.2
Styrene	1.7	UG/KG	ND	ND	DNQ31.4	DNQ93.9	194	166
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
meta,para xylenes	4.2	UG/KG	DNQ117	DNQ141	DNQ61.2	DNQ109	269	DNQ132
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050
Acrolein	6.4	UG/KG	NA*	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	NA*	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	DNQ4.9	ND
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	ND	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	DNQ4.3	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	122	93.7	126	90.3	87.0
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	ND	184	156	183	148	156
Methylene chloride	3.5	UG/KG	626	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	ND	110	64.1	76.1	43.5	51.9
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	626	416	314	389.4	286.7	294.9

Additional Analytes Determined;

Acetone	31.4	UG/KG	ND	26200	11800	13600	14200	15200
Allyl chloride	3.6	UG/KG	NA*	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	NA*	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	ND	7030	2560	3050	3270	2880
Carbon disulfide	4.7	UG/KG	ND	99.5	89.6	67.4	90.9	76.5
Chloroprene	3.1	UG/KG	NA*	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	30.1	28.9	30.1	24.6	ND
Methyl Iodide	3.8	UG/KG	NA*	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	NA*	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	NA*	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	ND	49.6	40.4	51.6	33.9	32.9
Styrene	1.7	UG/KG	ND	30.9	33.0	30.5	22.2	25.1
meta,para xylenes	4.2	UG/KG	ND	96.3	82.8	106.0	70.1	63.2
2-Chloroethylvinyl ether	5.5	UG/KG	NA*	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	ND	ND	ND	ND	ND

* = Not analyzed by the external lab (TestAmerica)

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Acrolein	6.4	UG/KG	ND	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	ND	DNQ4.6
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	DNQ4.2	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	DNQ16.0	DNQ10.9
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	DNQ3.3	ND
1,4-Dichlorobenzene	1.5	UG/KG	77.7	78.9	88.2	DNQ27.1	62.4	53.6
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	170	191	186	222	248	200
Methylene chloride	3.5	UG/KG	ND	DNQ15.8	20.7	DNQ8.0	ND	DNQ5.1
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	52.9	52.8	71.6	72.8	109.0	60.5
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	300.6	322.7	366.5	294.8	419.4	314.1

Additional Analytes Determined;

Analyte	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Acetone	31.4	UG/KG	22100	21200	29900	19300	32800	27700
Allyl chloride	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	6260	4800	10900	2530	3400	3330
Carbon disulfide	4.7	UG/KG	93.8	90.6	203.0	123.0	166.0	127.0
Chloroprene	3.1	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	19.4	DNQ16.7	33.6	26.5	23.4	17.2
Methyl Iodide	3.8	UG/KG	ND	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	40.0	35.9	52.4	46.7	34.7	30.9
Styrene	1.7	UG/KG	23.5	32.2	61.9	45.9	38.8	36.7
meta,para xylenes	4.2	UG/KG	79.1	71.7	97.0	91.0	71.4	59.6
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	DNQ13.2	ND	ND	ND	25.3

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Analyte	MDL	Units	Average
Acrolein	6.4	UG/KG	ND
Acrylonitrile	3.9	UG/KG	ND
Benzene	2.1	UG/KG	DNQ0.8
Bromodichloromethane	2.2	UG/KG	ND
Bromoform	2.4	UG/KG	ND
Bromomethane	6.9	UG/KG	ND
Carbon tetrachloride	3	UG/KG	ND
Chlorobenzene	1	UG/KG	DNQ0.4
Chloroethane	3.6	UG/KG	ND
Chloroform	2.3	UG/KG	ND
Chloromethane	3.4	UG/KG	ND
Dibromochloromethane	2.4	UG/KG	ND
1,2-Dichlorobenzene	1.5	UG/KG	DNQ2.2
1,3-Dichlorobenzene	1.8	UG/KG	DNQ0.6
1,4-Dichlorobenzene	1.5	UG/KG	DNQ75.6
Dichlorodifluoromethane	5.56	UG/KG	ND
1,1-Dichloroethane	1.9	UG/KG	ND
1,2-Dichloroethane	3.6	UG/KG	ND
1,1-Dichloroethene	5	UG/KG	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND
1,2-Dichloropropane	2.6	UG/KG	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND
Ethylbenzene	1.4	UG/KG	170.3
Methylene chloride	3.5	UG/KG	DNQ56.3
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND
Tetrachloroethene	2.8	UG/KG	ND
Toluene	1.2	UG/KG	63.8
1,1,1-Trichloroethane	3.2	UG/KG	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND
Trichloroethene	2.6	UG/KG	ND
Trichlorofluoromethane	2.2	UG/KG	ND
Vinyl chloride	4.8	UG/KG	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0
Purgeable Compounds	6.9	UG/KG	234.1

Additional Analytes Determined;

Analyte	MDL	Units	Average
Acetone	31.4	UG/KG	19500
Allyl chloride	3.6	UG/KG	ND
Benzyl chloride	4.3	UG/KG	ND
2-Butanone	36.3	UG/KG	4168
Carbon disulfide	4.7	UG/KG	102.3
Chloroprene	3.1	UG/KG	ND
1,2-Dibromoethane	2.5	UG/KG	ND
Isopropylbenzene	1.3	UG/KG	20.9
Methyl Iodide	3.8	UG/KG	ND
Methyl methacrylate	2.4	UG/KG	ND
Methyl tert-butyl ether	3.4	UG/KG	ND
2-Nitropropane	45.8	UG/KG	ND
ortho-xylene	1.9	UG/KG	37.4
Styrene	1.7	UG/KG	31.7
meta,para xylenes	4.2	UG/KG	74.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND
4-Methyl-2-pentanone	9.7	UG/KG	3.2

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Priority Pollutants Base/Neutral Compounds, EPA Method 625 & 605

Annual 2013

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013
Analyte	MDL	Units	P649601	P661078	P671076	P677625	P649607	P661084
Acenaphthene	1.8	UG/L	ND	ND	ND	ND	ND	ND
Acenaphthylene	1.77	UG/L	ND	ND	ND	ND	ND	ND
Anthracene	1.29	UG/L	ND	ND	ND	ND	ND	ND
Benzidine	1.52	UG/L	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1.1	UG/L	ND	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	1.35	UG/L	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	1.49	UG/L	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1.25	UG/L	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	1.09	UG/L	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	1.4	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	1.01	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	1.16	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	1.38	UG/L	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	1.57	UG/L	ND	ND	ND	ND	ND	ND
Chrysene	1.16	UG/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	1.01	UG/L	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	2.84	UG/L	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	3.96	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	8.96	UG/L	ND	ND	ND	ND	ND	29.7
Diethyl phthalate	3.05	UG/L	5.2	4.0	5.0	4.5	4.7	3.6
Dimethyl phthalate	1.44	UG/L	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	1	UG/L	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	2.44	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	1.36	UG/L	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.53	UG/L	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	1.37	UG/L	ND	ND	ND	ND	ND	ND
Fluoranthene	1.33	UG/L	ND	ND	ND	ND	ND	ND
Fluorene	1.61	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1.48	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1.64	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.25	UG/L	ND	ND	ND	ND	ND	ND
Hexachloroethane	1.32	UG/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	1.14	UG/L	ND	ND	ND	ND	ND	ND
Isophorone	1.53	UG/L	ND	ND	ND	ND	ND	ND
Naphthalene	1.65	UG/L	ND	ND	ND	ND	ND	ND
Nitrobenzene	1.6	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodimethylamine	1.27	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodi-n-propylamine	1.16	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine	3.48	UG/L	ND	ND	ND	ND	ND	ND
Phenanthrene	1.34	UG/L	ND	ND	ND	ND	ND	ND
Pyrene	1.43	UG/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND
Polynuc. Aromatic Hydrocarbons	1.77	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Base/Neutral Compounds	8.96	UG/L	5.2	4.0	5.0	4.5	4.7	33.3
Benzo[e]pyrene	1.44	UG/L	ND	ND	ND	ND	ND	ND
Biphenyl	2.29	UG/L	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	2.16	UG/L	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND
1-Methylphenanthrene	1.46	UG/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	2.14	UG/L	ND	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND
Perylene	1.41	UG/L	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	1.87	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

Priority Pollutants Base/Neutral Compounds, EPA Method 625 & 605

Annual 2013

Source			PLR	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			06-AUG-2013	01-OCT-2013	05-FEB-2013	07-MAY-2013	06-AUG-2013	01-OCT-2013
Analyte	MDL	Units	P671082	P677631	P649618	P661095	P671093	P677642
Acenaphthene	1.8	UG/L	ND	ND	ND	ND	ND	ND
Acenaphthylene	1.77	UG/L	ND	ND	ND	ND	ND	ND
Anthracene	1.29	UG/L	ND	ND	ND	ND	ND	ND
Benzidine	1.52	UG/L	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1.1	UG/L	ND	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	1.35	UG/L	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	1.49	UG/L	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1.25	UG/L	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	1.09	UG/L	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	1.4	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	1.01	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	1.16	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	1.38	UG/L	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	1.57	UG/L	ND	ND	ND	ND	ND	ND
Chrysene	1.16	UG/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	1.01	UG/L	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	2.84	UG/L	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	3.96	UG/L	ND	ND	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	8.96	UG/L	ND	11.1	ND	<9.0	<9.0	10.0
Diethyl phthalate	3.05	UG/L	4.1	4.2	ND	ND	ND	ND
Dimethyl phthalate	1.44	UG/L	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	1	UG/L	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	2.44	UG/L	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	1.36	UG/L	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.53	UG/L	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	1.37	UG/L	ND	ND	ND	ND	ND	ND
Fluoranthene	1.33	UG/L	ND	ND	ND	ND	ND	ND
Fluorene	1.61	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1.48	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	1.64	UG/L	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.25	UG/L	ND	ND	ND	ND	ND	ND
Hexachloroethane	1.32	UG/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	1.14	UG/L	ND	ND	ND	ND	ND	ND
Isophorone	1.53	UG/L	ND	ND	ND	ND	ND	ND
Naphthalene	1.65	UG/L	ND	ND	ND	ND	ND	ND
Nitrobenzene	1.6	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodimethylamine	1.27	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodi-n-propylamine	1.16	UG/L	ND	ND	ND	ND	ND	ND
N-nitrosodiphenylamine	3.48	UG/L	ND	ND	ND	ND	ND	ND
Phenanthrene	1.34	UG/L	ND	ND	ND	ND	ND	ND
Pyrene	1.43	UG/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1.52	UG/L	ND	ND	ND	ND	ND	ND
Polynuc. Aromatic Hydrocarbons	1.77	UG/L	0.0	0.0	0.0	0.0	0.0	0.0
Base/Neutral Compounds	8.96	UG/L	4.1	15.3	0.0	0.0	0.0	10.0
Benzo[e]pyrene	1.44	UG/L	ND	ND	ND	ND	ND	ND
Biphenyl	2.29	UG/L	ND	ND	ND	ND	ND	ND
2,6-Dimethylnaphthalene	2.16	UG/L	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND
1-Methylphenanthrene	1.46	UG/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	2.14	UG/L	ND	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND
Perylene	1.41	UG/L	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	1.87	UG/L	ND	ND	ND	ND	ND	ND

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Base/Neutrals

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013
Analyte	MDL	Units	P653392	P664036	P674861	P682539
Acenaphthene	330	UG/KG	ND	ND	ND	ND
Acenaphthylene	330	UG/KG	ND	ND	ND	ND
Anthracene	330	UG/KG	ND	ND	ND	ND
Benzidine	330	UG/KG	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[k]fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[a]anthracene	330	UG/KG	ND	ND	ND	ND
Benzo[a]pyrene	330	UG/KG	ND	ND	ND	ND
Benzo[g,h,i]perylene	330	UG/KG	ND	ND	ND	ND
4-Bromophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	330	UG/KG	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
2-Chloronaphthalene		UG/KG	ND	ND	ND	ND
Chrysene	330	UG/KG	ND	ND	ND	ND
Dibenzo(a,h)anthracene	330	UG/KG	ND	ND	ND	ND
Butyl benzyl phthalate	330	UG/KG	ND	845	ND	1640
Di-n-butyl phthalate	330	UG/KG	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	330	UG/KG	77500	81200	83300	82600
Diethyl phthalate	330	UG/KG	ND	ND	ND	ND
Dimethyl phthalate	330	UG/KG	ND	ND	ND	ND
Di-n-octyl phthalate	330	UG/KG	ND	ND	ND	1100
3,3-Dichlorobenzidine	330	UG/KG	ND	ND	ND	ND
2,4-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
2,6-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
1,2-Diphenylhydrazine		UG/KG	ND	ND	ND	ND
Fluoranthene	330	UG/KG	ND	ND	<330	ND
Fluorene	330	UG/KG	ND	ND	ND	ND
Hexachlorobenzene	330	UG/KG	ND	ND	ND	ND
Hexachlorobutadiene	330	UG/KG	ND	ND	ND	ND
Hexachlorocyclopentadiene	330	UG/KG	ND	ND	ND	ND
Hexachloroethane	330	UG/KG	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	330	UG/KG	ND	ND	ND	ND
Isophorone	330	UG/KG	ND	ND	ND	ND
Naphthalene	330	UG/KG	ND	681	ND	ND
Nitrobenzene	330	UG/KG	ND	ND	ND	ND
N-nitrosodimethylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodi-n-propylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodiphenylamine	330	UG/KG	ND	ND	ND	ND
Phenanthrene	330	UG/KG	ND	356	ND	459
Pyrene	330	UG/KG	ND	ND	ND	ND
1,2,4-Trichlorobenzene	330	UG/KG	ND	ND	ND	ND
PolyNuc. Aromatic Hydrocarbons	330	UG/KG	0	356	0	459
Base/Neutral Compounds	330	UG/KG	77500	83082	83300	85799

Additional Analytes Determined;

Analyte	MDL	Units	P653392	P664036	P674861	P682539
Benzo[e]pyrene		UG/KG	ND	ND	ND	ND
Biphenyl		UG/KG	ND	852	ND	296
2,6-Dimethylnaphthalene		UG/KG	1640	1840	1510	1790
1-Methylnaphthalene		UG/KG	ND	ND	ND	497
1-Methylphenanthrene		UG/KG	ND	ND	ND	ND*
2-Methylnaphthalene		UG/KG	462	653	367	573
2,3,5-Trimethylnaphthalene		UG/KG	ND	ND	ND	ND
Perylene	330	UG/KG	ND*	ND	ND	ND*
Pyridine		UG/KG	ND	ND	ND	ND

* =Did not meet CHK and SPK criteria.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	P645113	P649601	P654243	P657814	P661078	P664283	P667056	P671076
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ4.15	DNQ3.74	DNQ2.84	DNQ5.50	DNQ4.22	DNQ1.84	DNQ4.33	DNQ2.79
octa CDD	1.4	PG/L	DNQ31.0	DNQ27.0	DNQ26.0	DNQ36.0	DNQ23.0	DNQ16.0	DNQ29.0	DNQ17.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND	ND	ND	ND	ND

Source			PLE	PLE	PLE	PLE
Month			SEP	OCT	NOV	DEC
Analyte	MDL	Units	P674472	P677625	P683396	P686359
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ1.95	DNQ2.33	DNQ2.95	DNQ3.66
octa CDD	1.4	PG/L	DNQ15.0	DNQ14.0	DNQ23.0	DNQ26.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	DNQ0.485	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT
EFFLUENT
Dioxin and Furan Analysis

ANALYZED BY: Frontier Analytical Laboratories

2013 Annual

Source				PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE
				TCDD	TCDD	TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P645113	P649601	P654243	P657814	P661078	P664283	P667056	P671076
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.042	DNQ0.037	DNQ0.028	DNQ0.055	DNQ0.042	DNQ0.018	DNQ0.043	DNQ0.028
octa CDD	1.4	PG/L	0.001	DNQ0.031	DNQ0.027	DNQ0.026	DNQ0.036	DNQ0.023	DNQ0.016	DNQ0.029	DNQ0.017
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	ND	ND	ND	ND	ND	ND	ND	ND

Source				PLE	PLE	PLE	PLE
				TCDD	TCDD	TCDD	TCDD
Month				SEP	OCT	NOV	DEC
Analyte	MDL	Units	Equiv	P674472	P677625	P683396	P686359
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.020	DNQ0.023	DNQ0.030	DNQ0.037
octa CDD	1.4	PG/L	0.001	DNQ0.015	DNQ0.014	DNQ0.023	DNQ0.026
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	DNQ0.049	ND	ND	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT
SLUDGE PROJECT - ANNUAL SUMMARY
Dioxin and Furan Analysis

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Analyte	MDL	Units	P645116	P649607	P654246	P657817	P661084	P664286	P667059	P671082	P674475
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ19.0	DNQ20.9	DNQ21.6	DNQ20.4	DNQ20.4	DNQ16.2	DNQ21.9	DNQ19.7	DNQ14.1
octa CDD	1.4	PG/L	210.0	270.0	190.0	200.0	170.0	200.0	220.0	190.0	150.0
2,3,7,8-tetra CDF	.257	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.835	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ1.90	DNQ0.793	DNQ2.59	DNQ1.34	DNQ1.85	DNQ5.72	DNQ2.87	DNQ5.43
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	DNQ4.79	DNQ3.84	DNQ4.06	DNQ5.75	DNQ4.63	DNQ4.90	DNQ6.13	DNQ5.07	DNQ4.26
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	DNQ14.2	DNQ9.33	DNQ7.30	DNQ11.4	DNQ9.1	DNQ12.8	DNQ13.8	DNQ11.2	DNQ7.49

Source			PLR	PLR	PLR
Month			OCT	NOV	DEC
Analyte	MDL	Units	P677631	P683399	P686362
2,3,7,8-tetra CDD	.26	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	DNQ16.7	25.7	DNQ14.8
octa CDD	1.4	PG/L	170.0	270.0	150.0
2,3,7,8-tetra CDF	.257	PG/L	DNQ0.874	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ3.00	DNQ3.08
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	DNQ4.34	DNQ6.53	DNQ4.40
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	ND	ND	ND
octa CDF	.738	PG/L	DNQ8.97	DNQ15.1	DNQ8.84

Above are permit required CDD/CDF isomers.

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

POINT LOMA WASTEWATER TREATMENT
SLUDGE PROJECT - ANNUAL SUMMARY
Dioxin and Furan Analysis

2013 Annual

Source				PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P645116	P649607	P654246	P657817	P661084	P664286	P667059	P671082
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.190	DNQ0.209	DNQ0.216	DNQ0.204	DNQ0.204	DNQ0.162	DNQ0.219	DNQ0.197
octa CDD	1.4	PG/L	0.001	0.210	0.270	0.190	0.200	0.170	0.200	0.220	0.190
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.084	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	DNQ0.190	DNQ0.079	DNQ0.259	DNQ0.134	DNQ0.185	DNQ0.572	DNQ0.287
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	DNQ0.048	DNQ0.038	DNQ0.041	DNQ0.058	DNQ0.046	DNQ0.049	DNQ0.061	DNQ0.051
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	DNQ0.014	DNQ0.009	DNQ0.007	DNQ0.011	DNQ0.009	DNQ0.013	DNQ0.014	DNQ0.011

Source				PLR TCDD	PLR TCDD	PLR TCDD	PLR TCDD
Month				SEP	OCT	NOV	DEC
Analyte	MDL	Units	Equiv	P674475	P677631	P683399	P686362
2,3,7,8-tetra CDD	.26	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	.277	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.479	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.53	PG/L	0.010	DNQ0.141	DNQ0.167	0.257	DNQ0.148
octa CDD	1.4	PG/L	0.001	0.150	0.170	0.270	0.150
2,3,7,8-tetra CDF	.257	PG/L	0.100	ND	DNQ0.087	ND	ND
1,2,3,7,8-penta CDF	.335	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.34	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.284	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	DNQ0.543	ND	DNQ0.300	DNQ0.308
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	.295	PG/L	0.010	DNQ0.043	DNQ0.043	DNQ0.065	DNQ0.044
1,2,3,4,7,8,9-hepta CDF	.397	PG/L	0.010	ND	ND	ND	ND
octa CDF	.738	PG/L	0.001	DNQ0.007	DNQ0.009	DNQ0.015	DNQ0.009

Above are permit required CDD/CDF isomers.

nd= not detected, NA= not analyzed, NS= not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

METROBIOSOLIDS CENTER
Dioxin and Furan Analysis, SW-846 Method 8290

Annual 2013

Analyzed by: Frontier Analytical Laboratories

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013	31-JUL-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050	P669948
2,3,7,8-tetra CDD	.043	NG/KG	DNQ0.58	DNQ0.39	DNQ0.75	ND	DNQ0.68	DNQ0.45	ND
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ2.84	DNQ2.02	DNQ2.62	DNQ3.57	DNQ2.63	DNQ2.56	DNQ2.68
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.54	DNQ1.18	DNQ2.86	DNQ1.35	DNQ1.66	DNQ1.33	DNQ1.42
1,2,3,6,7,8-hexa CDD	.081	NG/KG	16.50	DNQ4.84	24.00	19.20	24.30	20.70	22.70
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	5.88	DNQ2.58	7.40	5.85	8.29	6.11	DNQ6.25
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	261.00	91.70	325.00	296.00	258.00	245.00	216.00
octa CDD	.297	NG/KG	1660.00	1250.00	1910.00	1570.00	1510.00	1360.00	1130.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.40	DNQ3.33	3.83	3.81	3.68	3.53	3.03
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.14	DNQ1.08	DNQ1.32	DNQ1.07	DNQ1.40	DNQ1.23	DNQ1.12
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.14	DNQ1.85	DNQ1.16	DNQ1.38	DNQ1.61	DNQ1.39
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ2.03	DNQ2.06	DNQ2.42	DNQ1.43	DNQ2.45	DNQ1.86	DNQ1.61
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ1.76	DNQ1.92	DNQ1.75	DNQ2.09	DNQ3.06	DNQ1.78	DNQ1.85
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	DNQ0.76	DNQ0.87	DNQ0.83	ND	DNQ0.68	DNQ0.61	DNQ0.58
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.55	DNQ2.26	DNQ2.65	DNQ1.84	DNQ2.71	DNQ2.32	DNQ2.00
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	24.90	24.90	27.70	20.50	23.50	24.50	20.20
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.58	DNQ1.50	DNQ1.64	ND	DNQ1.26	DNQ1.50	DNQ1.37
octa CDF	.155	NG/KG	64.30	67.70	77.20	49.10	73.80	61.30	49.80

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P674861	P677800	P682539	P687315	P690536
2,3,7,8-tetra CDD	.043	NG/KG	ND	DNQ0.47	DNQ0.57	DNQ0.67	DNQ0.63
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ3.72	DNQ2.48	DNQ2.44	DNQ2.92	DNQ3.73
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.55	DNQ1.10	DNQ1.46	DNQ1.65	DNQ1.20
1,2,3,6,7,8-hexa CDD	.081	NG/KG	12.50	9.61	15.90	19.60	16.80
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	DNQ4.33	DNQ3.21	5.44	7.22	DNQ5.58
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	178.00	163.00	204.00	224.00	231.00
octa CDD	.297	NG/KG	1130.00	1070.00	1230.00	1240.00	1150.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.78	3.60	3.68	3.44	3.62
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.23	DNQ1.08	DNQ1.31	DNQ1.33	DNQ1.38
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.25	DNQ1.97	DNQ1.71	DNQ1.12
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ1.95	DNQ1.54	DNQ2.00	DNQ2.04	DNQ1.77
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ2.09	DNQ1.60	DNQ1.80	DNQ1.78	DNQ1.67
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	ND	DNQ0.50	DNQ0.62	DNQ0.64	DNQ0.57
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.64	DNQ1.84	DNQ2.20	DNQ2.30	DNQ2.02
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	22.90	19.30	21.40	23.80	22.40
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.43	DNQ1.11	DNQ1.48	DNQ1.63	DNQ1.58
octa CDF	.155	NG/KG	54.70	46.70	54.40	60.90	57.80

ND = not detected, NA = not analyzed, NS = not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

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VII. Other Required Information

A. Notes on Specific Analysis
B. Report of Operator Certification
C. Status of the Operations and Maintenance Manual

A. Notes on Specific Analysis

1. It should be noted that some of the reference methods are equivalent. The organic priority pollutant analyses listed in E.P.A.'s Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846 (ref. c) are equivalent to the methods E.P.A. prescribes for water in Methods for Chemical Analysis for Water and Wastes, (ref.a). Specifically wastewater methods 3510 and 8270 (ref.d) together are the same as the water method 625 (ref.a), and Method 8260B (ref. c) is equivalent to Method 624 (ref.a). Methods 3550 and 8270 together are equivalent to the E.P.A. Contract Laboratory Program's (ref. aa) method for ultrasonication and gas chromatograph-mass spectrographic analysis. The E.P.A.'s metals analyses for water (ref.a) generally just refers to the procedure in Standard Methods (ref. b, bb).

2. Detection Limit

MDLs for various analyses were updated in 2013. The MDLs referenced in this report are the maximum MDL for the calendar year. The following is a table listing, by Analyses Code and Analyte Name, the changes in the MDLs that occurred in 2013. All MDL studies were performed following CFR136.3. This year most MDL studies utilized clean matrix, i.e. Deionized Water or clean sand.

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
608_TQ	2456_4CL_MXYLEN	01-May-2012	2	*	NG/L
608_TQ	ALDRIN	01-May-2012	3	*	NG/L
608_TQ	BHC_A	01-May-2012	1	*	NG/L
608_TQ	BHC_B	01-May-2012	6	*	NG/L
608_TQ	BHC_D	01-May-2012	4	*	NG/L
608_TQ	BHC_G	01-May-2012	3	*	NG/L
608_TQ	CHLORDANE_A	01-May-2012	2	*	NG/L
608_TQ	CHLORDANE_G	01-May-2012	2	*	NG/L
608_TQ	CIS_NONACHLOR	01-May-2012	5	*	NG/L
608_TQ	DBC	01-May-2012	5	*	NG/L
608_TQ	DIELDRIN	01-May-2012	8	*	NG/L
608_TQ	ENDOSLFAN_SO4	01-May-2012	5	*	NG/L
608_TQ	ENDOSULFAN_A	01-May-2012	3	*	NG/L
608_TQ	ENDOSULFAN_B	01-May-2012	5	*	NG/L
608_TQ	ENDRIN	01-May-2012	8	*	NG/L
608_TQ	ENDRIN_ALD	01-May-2012	9	*	NG/L
608_TQ	HEPTACHLOR	01-May-2012	2	*	NG/L
608_TQ	HEPTACHLOR_EPOX	01-May-2012	4	*	NG/L
608_TQ	METHOXYCHLOR	01-May-2012	1	*	NG/L
608_TQ	MIREX	01-May-2012	1	*	NG/L
608_TQ	OP_DDD	01-May-2012	3	*	NG/L
608_TQ	OP_DDE	01-May-2012	1	*	NG/L

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
608_TQ	OP_DDT	01-May-2012	3	*	NG/L
608_TQ	OXYCHLORDANE	01-May-2012	3	*	NG/L
608_TQ	PCB_1016	01-May-2012	12	*	NG/L
608_TQ	PCB_1221	01-May-2012	18	*	NG/L
608_TQ	PCB_1232	01-May-2012	12	*	NG/L
608_TQ	PCB_1242	01-May-2012	5	*	NG/L
608_TQ	PCB_1248	01-May-2012	5	*	NG/L
608_TQ	PCB_1254	01-May-2012	11	*	NG/L
608_TQ	PCB_1260	01-May-2012	9	*	NG/L
608_TQ	PCB_1262	01-May-2012	10	*	NG/L
608_TQ	PP_DDD	01-May-2012	4	*	NG/L
608_TQ	PP_DDE	01-May-2012	2	*	NG/L
608_TQ	PP_DDT	01-May-2012	4	*	NG/L
608_TQ	T_NONACHLOR	01-May-2012	3	*	NG/L
608_TQ	TOXAPHENE	01-May-2012	330	*	NG/L
8081A_8082_TQ	2456_4CL_MXYLEN	01-May-2012	1000	*	NG/KG
8081A_8082_TQ	ALDRIN	01-May-2012	10000	*	NG/KG
8081A_8082_TQ	BHC_A	01-May-2012	1300	*	NG/KG
8081A_8082_TQ	BHC_B	01-May-2012	1000	*	NG/KG
8081A_8082_TQ	BHC_D	01-May-2012	800	*	NG/KG
8081A_8082_TQ	BHC_G	01-May-2012	1100	*	NG/KG
8081A_8082_TQ	CHLORDANE_A	01-May-2012	3200	*	NG/KG
8081A_8082_TQ	CHLORDANE_G	01-May-2012	800	*	NG/KG
8081A_8082_TQ	CIS_NONACHLOR	01-May-2012	1600	*	NG/KG
8081A_8082_TQ	DBC	01-May-2012	3300	*	NG/KG
8081A_8082_TQ	DIELDRIN	01-May-2012	2300	*	NG/KG
8081A_8082_TQ	ENDOSLFAN_SO4	01-May-2012	2200	*	NG/KG
8081A_8082_TQ	ENDOSULFAN_A	01-May-2012	2500	*	NG/KG
8081A_8082_TQ	ENDOSULFAN_B	01-May-2012	1500	*	NG/KG
8081A_8082_TQ	ENDRIN	01-May-2012	2500	*	NG/KG
8081A_8082_TQ	ENDRIN_ALD	01-May-2012	800	*	NG/KG
8081A_8082_TQ	HEPTACHLOR	01-May-2012	1200	*	NG/KG
8081A_8082_TQ	HEPTACHLOR_EPOX	01-May-2012	1300	*	NG/KG
8081A_8082_TQ	METHOXYCHLOR	01-May-2012	800	*	NG/KG
8081A_8082_TQ	MIREX	01-May-2012	900	*	NG/KG
8081A_8082_TQ	OP_DDD	01-May-2012	800	*	NG/KG
8081A_8082_TQ	OP_DDE	01-May-2012	1100	*	NG/KG
8081A_8082_TQ	OP_DDT	01-May-2012	800	*	NG/KG
8081A_8082_TQ	OXYCHLORDANE	01-May-2012	1600	*	NG/KG
8081A_8082_TQ	PCB_1016	01-May-2012	5600	*	NG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
8081A_8082_TQ	PCB_1221	01-May-2012	20000	*	NG/KG
8081A_8082_TQ	PCB_1232	01-May-2012	3000	*	NG/KG
8081A_8082_TQ	PCB_1242	01-May-2012	7000	*	NG/KG
8081A_8082_TQ	PCB_1248	01-May-2012	9300	*	NG/KG
8081A_8082_TQ	PCB_1254	01-May-2012	4200	*	NG/KG
8081A_8082_TQ	PCB_1260	01-May-2012	3000	*	NG/KG
8081A_8082_TQ	PCB_1262	01-May-2012	5000	*	NG/KG
8081A_8082_TQ	PP_DDD	01-May-2012	500	*	NG/KG
8081A_8082_TQ	PP_DDE	01-May-2012	1000	*	NG/KG
8081A_8082_TQ	PP_DDT	01-May-2012	2200	*	NG/KG
8081A_8082_TQ	T_NONACHLOR	01-May-2012	1300	*	NG/KG
8081A_8082_TQ	TOXAPHENE	01-May-2012	183000	*	NG/KG
CPEST_FISH_LIV	BHC_A	12-Mar-2013	17.4	24.7	UG/KG
CPEST_FISH_LIV	BHC_B	12-Mar-2013	10.3	4.68	UG/KG
CPEST_FISH_LIV	BHC_D	12-Mar-2013	6.32	4.53	UG/KG
CPEST_FISH_LIV	BHC_G	12-Mar-2013	50.4	63.4	UG/KG
CPEST_FISH_LIV	CHLORDANE_A	12-Mar-2013	2.02	4.56	UG/KG
CPEST_FISH_LIV	CHLORDANE_G	12-Mar-2013	3.07	2.59	UG/KG
CPEST_FISH_LIV	CIS_NONACHLOR	12-Mar-2013	1.91	4.7	UG/KG
CPEST_FISH_LIV	DIELDRIN	12-Mar-2013	12.6	17.1	UG/KG
CPEST_FISH_LIV	ENDOSLFAN_SO4	12-Mar-2013	58.3	*	UG/KG
CPEST_FISH_LIV	ENDOSULFAN_A	12-Mar-2013	24.7	118	UG/KG
CPEST_FISH_LIV	ENDOSULFAN_B	12-Mar-2013	43.8	*	UG/KG
CPEST_FISH_LIV	ENDRIN	12-Mar-2013	30.3	14.2	UG/KG
CPEST_FISH_LIV	ENDRIN_ALD	12-Mar-2013	10.2	*	UG/KG
CPEST_FISH_LIV	HEPTACHLOR	12-Mar-2013	2.1	3.82	UG/KG
CPEST_FISH_LIV	HEPTACHLOR_EPOX	12-Mar-2013	3.79	3.89	UG/KG
CPEST_FISH_LIV	METHOXYCHLOR	12-Mar-2013	12.1	*	UG/KG
CPEST_FISH_LIV	MIREX	12-Mar-2013	1.77	1.49	UG/KG
CPEST_FISH_LIV	OP_DDD	12-Mar-2013	1.98	2.02	UG/KG
CPEST_FISH_LIV	OP_DDE	12-Mar-2013	2.52	2.76	UG/KG
CPEST_FISH_LIV	OP_DDT	12-Mar-2013	2.05	1.62	UG/KG
CPEST_FISH_LIV	OXYCHLORDANE	12-Mar-2013	2.92	7.77	UG/KG
CPEST_FISH_LIV	PCB_209	12-Mar-2013	1.33	7.13	UG/KG
CPEST_FISH_LIV	PCB_30	12-Mar-2013	1.46	2.9	UG/KG
CPEST_FISH_LIV	PCB_65	12-Mar-2013	1.86	4.68	UG/KG
CPEST_FISH_LIV	PP_DDD	12-Mar-2013	2.86	3.36	UG/KG
CPEST_FISH_LIV	PP_DDE	12-Mar-2013	4.94	2.08	UG/KG
CPEST_FISH_LIV	PP_DDMU	12-Mar-2013	1.82	3.29	UG/KG
CPEST_FISH_LIV	PP_DDT	12-Mar-2013	2.76	2.69	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
CPEST_FISH_LIV	T_NONACHLOR	12-Mar-2013	1.44	2.58	UG/KG
CPEST_FISH_MUS	2456_4CL_MXYLEN	12-Mar-2013	0.19	0.16	UG/KG
CPEST_FISH_MUS	6CLBENZENE	12-Mar-2013	0.23	0.13	UG/KG
CPEST_FISH_MUS	ALDRIN	12-Mar-2013	2.53	8.81	UG/KG
CPEST_FISH_MUS	BHC_A	12-Mar-2013	1.74	2.47	UG/KG
CPEST_FISH_MUS	BHC_B	12-Mar-2013	1.03	0.47	UG/KG
CPEST_FISH_MUS	BHC_D	12-Mar-2013	0.63	0.45	UG/KG
CPEST_FISH_MUS	BHC_G	12-Mar-2013	5.04	6.34	UG/KG
CPEST_FISH_MUS	CHLORDANE_A	12-Mar-2013	0.2	0.46	UG/KG
CPEST_FISH_MUS	CHLORDANE_G	12-Mar-2013	0.31	0.26	UG/KG
CPEST_FISH_MUS	CIS_NONACHLOR	12-Mar-2013	0.19	0.47	UG/KG
CPEST_FISH_MUS	DIELDRIN	12-Mar-2013	1.26	1.71	UG/KG
CPEST_FISH_MUS	ENDOSLFAN_SO4	12-Mar-2013	5.83	*	UG/KG
CPEST_FISH_MUS	ENDOSULFAN_A	12-Mar-2013	2.47	11.8	UG/KG
CPEST_FISH_MUS	ENDOSULFAN_B	12-Mar-2013	4.38	*	UG/KG
CPEST_FISH_MUS	ENDRIN	12-Mar-2013	3.03	1.42	UG/KG
CPEST_FISH_MUS	ENDRIN_ALD	12-Mar-2013	1.02	*	UG/KG
CPEST_FISH_MUS	HEPTACHLOR	12-Mar-2013	0.21	0.38	UG/KG
CPEST_FISH_MUS	HEPTACHLOR_EPOX	12-Mar-2013	0.38	0.39	UG/KG
CPEST_FISH_MUS	METHOXYCHLOR	12-Mar-2013	1.21	*	UG/KG
CPEST_FISH_MUS	MIREX	12-Mar-2013	0.18	0.15	UG/KG
CPEST_FISH_MUS	OP_DDE	12-Mar-2013	0.25	0.28	UG/KG
CPEST_FISH_MUS	OP_DDT	12-Mar-2013	0.2	0.16	UG/KG
CPEST_FISH_MUS	OXYCHLORDANE	12-Mar-2013	0.29	0.78	UG/KG
CPEST_FISH_MUS	PCB_209	12-Mar-2013	0.13	0.71	UG/KG
CPEST_FISH_MUS	PCB_30	12-Mar-2013	0.15	0.29	UG/KG
CPEST_FISH_MUS	PCB_65	12-Mar-2013	0.19	0.47	UG/KG
CPEST_FISH_MUS	PP_DDD	12-Mar-2013	0.29	0.34	UG/KG
CPEST_FISH_MUS	PP_DDE	12-Mar-2013	0.49	0.21	UG/KG
CPEST_FISH_MUS	PP_DDMU	12-Mar-2013	0.18	0.33	UG/KG
CPEST_FISH_MUS	PP_DDT	12-Mar-2013	0.28	0.27	UG/KG
CPEST_FISH_MUS	T_NONACHLOR	12-Mar-2013	0.14	0.26	UG/KG
CPEST_SED8081A	2456_4CL_MXYLEN	12-Mar-2013	130	400	NG/KG
CPEST_SED8081A	6CLBENZENE	12-Mar-2013	70	470	NG/KG
CPEST_SED8081A	ALDRIN	12-Mar-2013	70	430	NG/KG
CPEST_SED8081A	BHC_A	12-Mar-2013	100	150	NG/KG
CPEST_SED8081A	BHC_B	12-Mar-2013	50	310	NG/KG
CPEST_SED8081A	BHC_D	12-Mar-2013	220	700	NG/KG
CPEST_SED8081A	BHC_G	12-Mar-2013	190	260	NG/KG
CPEST_SED8081A	CHLORDANE_A	12-Mar-2013	160	240	NG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
CPEST_SED8081A	CHLORDANE_G	12-Mar-2013	190	350	NG/KG
CPEST_SED8081A	CIS_NONACHLOR	12-Mar-2013	380	240	NG/KG
CPEST_SED8081A	DIELDRIN	12-Mar-2013	340	310	NG/KG
CPEST_SED8081A	ENDOSLFAN_SO4	12-Mar-2013	1100	260	NG/KG
CPEST_SED8081A	ENDOSULFAN_A	12-Mar-2013	720	240	NG/KG
CPEST_SED8081A	ENDOSULFAN_B	12-Mar-2013	780	350	NG/KG
CPEST_SED8081A	ENDRIN	12-Mar-2013	510	830	NG/KG
CPEST_SED8081A	ENDRIN_ALD	12-Mar-2013	2400	830	NG/KG
CPEST_SED8081A	HEPTACHLOR	12-Mar-2013	120	1200	NG/KG
CPEST_SED8081A	HEPTACHLOR_EPOX	12-Mar-2013	300	120	NG/KG
CPEST_SED8081A	METHOXYCHLOR	12-Mar-2013	90	1100	NG/KG
CPEST_SED8081A	MIREX	12-Mar-2013	60	500	NG/KG
CPEST_SED8081A	OP_DDD	12-Mar-2013	100	830	NG/KG
CPEST_SED8081A	OP_DDE	12-Mar-2013	60	720	NG/KG
CPEST_SED8081A	OP_DDT	12-Mar-2013	110	800	NG/KG
CPEST_SED8081A	OXYCHLORDANE	12-Mar-2013	1200	240	NG/KG
CPEST_SED8081A	PCB_209	12-Mar-2013	40	930	NG/KG
CPEST_SED8081A	PP_DDD	12-Mar-2013	160	470	NG/KG
CPEST_SED8081A	PP_DDMU	12-Mar-2013	110	*	NG/KG
CPEST_SED8081A	PP_DDT	12-Mar-2013	70	800	NG/KG
CPEST_SED8081A	T_NONACHLOR	12-Mar-2013	240	250	NG/KG
LIPIDS_FISH	LIPIDS	1-Oct-2013	0.09	0.005	WT%
METS_HYDR_WW	ARSENIC	18-Dec-2013	0.06	0.4	UG/L
METS_HYDR_WW	SELENIUM	18-Dec-2013	0.08	0.28	UG/L
PCB_FISH_LIV	PCB_101	12-Mar-2013	1.7	4.34	UG/KG
PCB_FISH_LIV	PCB_105	12-Mar-2013	2.28	2.29	UG/KG
PCB_FISH_LIV	PCB_110	12-Mar-2013	2.13	2.5	UG/KG
PCB_FISH_LIV	PCB_114	12-Mar-2013	2.77	3.15	UG/KG
PCB_FISH_LIV	PCB_118	12-Mar-2013	2.56	2.06	UG/KG
PCB_FISH_LIV	PCB_119	12-Mar-2013	2.72	2.39	UG/KG
PCB_FISH_LIV	PCB_123	12-Mar-2013	3.04	2.64	UG/KG
PCB_FISH_LIV	PCB_126	12-Mar-2013	1.93	1.52	UG/KG
PCB_FISH_LIV	PCB_128	12-Mar-2013	2.28	1.23	UG/KG
PCB_FISH_LIV	PCB_138	12-Mar-2013	1.93	1.73	UG/KG
PCB_FISH_LIV	PCB_149	12-Mar-2013	1.92	2.34	UG/KG
PCB_FISH_LIV	PCB_151	12-Mar-2013	1.52	1.86	UG/KG
PCB_FISH_LIV	PCB_153/168	12-Mar-2013	3.76	2.54	UG/KG
PCB_FISH_LIV	PCB_156	12-Mar-2013	2.33	0.64	UG/KG
PCB_FISH_LIV	PCB_157	12-Mar-2013	2.77	2.88	UG/KG
PCB_FISH_LIV	PCB_158	12-Mar-2013	2.55	2.72	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
PCB_FISH_LIV	PCB_167	12-Mar-2013	2.05	1.63	UG/KG
PCB_FISH_LIV	PCB_169	12-Mar-2013	1.41	2.76	UG/KG
PCB_FISH_LIV	PCB_170	12-Mar-2013	2.16	1.23	UG/KG
PCB_FISH_LIV	PCB_177	12-Mar-2013	1.96	1.91	UG/KG
PCB_FISH_LIV	PCB_18	12-Mar-2013	1.49	2.86	UG/KG
PCB_FISH_LIV	PCB_180	12-Mar-2013	2.89	2.58	UG/KG
PCB_FISH_LIV	PCB_183	12-Mar-2013	2.06	1.55	UG/KG
PCB_FISH_LIV	PCB_187	12-Mar-2013	2.25	2.5	UG/KG
PCB_FISH_LIV	PCB_194	12-Mar-2013	3.41	1.14	UG/KG
PCB_FISH_LIV	PCB_201	12-Mar-2013	2.76	2.88	UG/KG
PCB_FISH_LIV	PCB_206	12-Mar-2013	1.84	1.28	UG/KG
PCB_FISH_LIV	PCB_209	12-Mar-2013	1.33	7.13	UG/KG
PCB_FISH_LIV	PCB_28	12-Mar-2013	1.47	2.47	UG/KG
PCB_FISH_LIV	PCB_30	12-Mar-2013	1.46	2.9	UG/KG
PCB_FISH_LIV	PCB_37	12-Mar-2013	2.03	2.77	UG/KG
PCB_FISH_LIV	PCB_44	12-Mar-2013	1.88	3.65	UG/KG
PCB_FISH_LIV	PCB_49	12-Mar-2013	1.67	5.02	UG/KG
PCB_FISH_LIV	PCB_52	12-Mar-2013	1.66	5.32	UG/KG
PCB_FISH_LIV	PCB_65	12-Mar-2013	1.86	4.68	UG/KG
PCB_FISH_LIV	PCB_66	12-Mar-2013	1.86	2.81	UG/KG
PCB_FISH_LIV	PCB_70	12-Mar-2013	2.05	2.49	UG/KG
PCB_FISH_LIV	PCB_74	12-Mar-2013	2.11	3.1	UG/KG
PCB_FISH_LIV	PCB_77	12-Mar-2013	3.32	2.01	UG/KG
PCB_FISH_LIV	PCB_81	12-Mar-2013	1.91	3.56	UG/KG
PCB_FISH_LIV	PCB_87	12-Mar-2013	1.95	3.01	UG/KG
PCB_FISH_LIV	PCB_99	12-Mar-2013	1.54	3.05	UG/KG
PCB_FISH_MUS	PCB_101	12-Mar-2013	0.17	0.43	UG/KG
PCB_FISH_MUS	PCB_110	12-Mar-2013	0.21	0.25	UG/KG
PCB_FISH_MUS	PCB_114	12-Mar-2013	0.28	0.31	UG/KG
PCB_FISH_MUS	PCB_118	12-Mar-2013	0.26	0.21	UG/KG
PCB_FISH_MUS	PCB_119	12-Mar-2013	0.27	0.24	UG/KG
PCB_FISH_MUS	PCB_123	12-Mar-2013	0.3	0.26	UG/KG
PCB_FISH_MUS	PCB_126	12-Mar-2013	0.19	0.15	UG/KG
PCB_FISH_MUS	PCB_128	12-Mar-2013	0.23	0.12	UG/KG
PCB_FISH_MUS	PCB_138	12-Mar-2013	0.19	0.17	UG/KG
PCB_FISH_MUS	PCB_149	12-Mar-2013	0.19	0.23	UG/KG
PCB_FISH_MUS	PCB_151	12-Mar-2013	0.15	0.19	UG/KG
PCB_FISH_MUS	PCB_153/168	12-Mar-2013	0.38	0.25	UG/KG
PCB_FISH_MUS	PCB_156	12-Mar-2013	0.23	0.06	UG/KG
PCB_FISH_MUS	PCB_157	12-Mar-2013	0.28	0.29	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
PCB_FISH_MUS	PCB_158	12-Mar-2013	0.26	0.27	UG/KG
PCB_FISH_MUS	PCB_167	12-Mar-2013	0.21	0.16	UG/KG
PCB_FISH_MUS	PCB_169	12-Mar-2013	0.14	0.28	UG/KG
PCB_FISH_MUS	PCB_170	12-Mar-2013	0.22	0.12	UG/KG
PCB_FISH_MUS	PCB_177	12-Mar-2013	0.2	0.19	UG/KG
PCB_FISH_MUS	PCB_18	12-Mar-2013	0.15	0.29	UG/KG
PCB_FISH_MUS	PCB_180	12-Mar-2013	0.29	0.26	UG/KG
PCB_FISH_MUS	PCB_183	12-Mar-2013	0.21	0.15	UG/KG
PCB_FISH_MUS	PCB_187	12-Mar-2013	0.23	0.25	UG/KG
PCB_FISH_MUS	PCB_194	12-Mar-2013	0.34	0.11	UG/KG
PCB_FISH_MUS	PCB_201	12-Mar-2013	0.28	0.29	UG/KG
PCB_FISH_MUS	PCB_206	12-Mar-2013	0.18	0.13	UG/KG
PCB_FISH_MUS	PCB_209	12-Mar-2013	0.13	0.71	UG/KG
PCB_FISH_MUS	PCB_28	12-Mar-2013	0.15	0.25	UG/KG
PCB_FISH_MUS	PCB_30	12-Mar-2013	0.15	0.29	UG/KG
PCB_FISH_MUS	PCB_37	12-Mar-2013	0.2	0.28	UG/KG
PCB_FISH_MUS	PCB_44	12-Mar-2013	0.19	0.36	UG/KG
PCB_FISH_MUS	PCB_49	12-Mar-2013	0.17	0.5	UG/KG
PCB_FISH_MUS	PCB_52	12-Mar-2013	0.17	0.53	UG/KG
PCB_FISH_MUS	PCB_65	12-Mar-2013	0.19	0.47	UG/KG
PCB_FISH_MUS	PCB_66	12-Mar-2013	0.19	0.28	UG/KG
PCB_FISH_MUS	PCB_70	12-Mar-2013	0.2	0.25	UG/KG
PCB_FISH_MUS	PCB_74	12-Mar-2013	0.21	0.31	UG/KG
PCB_FISH_MUS	PCB_77	12-Mar-2013	0.33	0.2	UG/KG
PCB_FISH_MUS	PCB_81	12-Mar-2013	0.19	0.36	UG/KG
PCB_FISH_MUS	PCB_87	12-Mar-2013	0.19	0.3	UG/KG
PCB_FISH_MUS	PCB_99	12-Mar-2013	0.15	0.3	UG/KG
PCB_SED	PCB_101	12-Mar-2013	100	430	NG/KG
PCB_SED	PCB_105	12-Mar-2013	50	720	NG/KG
PCB_SED	PCB_110	12-Mar-2013	110	640	NG/KG
PCB_SED	PCB_114	12-Mar-2013	130	700	NG/KG
PCB_SED	PCB_118	12-Mar-2013	90	830	NG/KG
PCB_SED	PCB_119	12-Mar-2013	80	560	NG/KG
PCB_SED	PCB_123	12-Mar-2013	130	660	NG/KG
PCB_SED	PCB_126	12-Mar-2013	70	720	NG/KG
PCB_SED	PCB_128	12-Mar-2013	80	570	NG/KG
PCB_SED	PCB_138	12-Mar-2013	80	590	NG/KG
PCB_SED	PCB_149	12-Mar-2013	110	500	NG/KG
PCB_SED	PCB_151	12-Mar-2013	80	640	NG/KG
PCB_SED	PCB_153/168	12-Mar-2013	150	600	NG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PREVIOUS MDL	UNITS
PCB_SED	PCB_156	12-Mar-2013	90	620	NG/KG
PCB_SED	PCB_157	12-Mar-2013	100	700	NG/KG
PCB_SED	PCB_158	12-Mar-2013	70	510	NG/KG
PCB_SED	PCB_167	12-Mar-2013	30	620	NG/KG
PCB_SED	PCB_169	12-Mar-2013	90	610	NG/KG
PCB_SED	PCB_170	12-Mar-2013	80	570	NG/KG
PCB_SED	PCB_177	12-Mar-2013	70	650	NG/KG
PCB_SED	PCB_18	12-Mar-2013	90	540	NG/KG
PCB_SED	PCB_180	12-Mar-2013	80	530	NG/KG
PCB_SED	PCB_183	12-Mar-2013	60	530	NG/KG
PCB_SED	PCB_187	12-Mar-2013	110	470	NG/KG
PCB_SED	PCB_189	12-Mar-2013	60	620	NG/KG
PCB_SED	PCB_194	12-Mar-2013	80	420	NG/KG
PCB_SED	PCB_201	12-Mar-2013	70	530	NG/KG
PCB_SED	PCB_206	12-Mar-2013	50	510	NG/KG
PCB_SED	PCB_209	12-Mar-2013	40	930	NG/KG
PCB_SED	PCB_28	12-Mar-2013	60	660	NG/KG
PCB_SED	PCB_30	12-Mar-2013	70	760	NG/KG
PCB_SED	PCB_37	12-Mar-2013	90	340	NG/KG
PCB_SED	PCB_44	12-Mar-2013	100	890	NG/KG
PCB_SED	PCB_49	12-Mar-2013	70	850	NG/KG
PCB_SED	PCB_52	12-Mar-2013	90	1000	NG/KG
PCB_SED	PCB_65	12-Mar-2013	80	720	NG/KG
PCB_SED	PCB_66	12-Mar-2013	100	920	NG/KG
PCB_SED	PCB_70	12-Mar-2013	60	1100	NG/KG
PCB_SED	PCB_74	12-Mar-2013	100	900	NG/KG
PCB_SED	PCB_77	12-Mar-2013	110	790	NG/KG
PCB_SED	PCB_81	12-Mar-2013	130	590	NG/KG
PCB_SED	PCB_87	12-Mar-2013	200	600	NG/KG
PCB_SED	PCB_99	12-Mar-2013	120	660	NG/KG

* No previous MDL on Analysis Code

B. Report of Operator Certification

Report of Operator Certification

The following list includes all Wastewater Treatment Plant Operators working at the Point Loma Wastewater Treatment Plant and their California State certification status **as of December 2013**, Name, Certification Grade, Certification Number, and expiration date are shown for each operator.

Point Loma Wastewater Treatment Plant

Name	Grade	Cert. No.	Expiration Date
Point Loma Wastewater Treatment Plant Superintendent:			
Shankles, K.C.	V	6975	06/30/2015
Sr. Operations Supervisor:			
Huntamer, David	V	8686	12/31/2015
Operation Supervisors:			
Sanchez, Cesar	V	10083	06/30/2015
Avila, Juan	III	28383	12/31/2015
Marlow, David	V	10216	12/32/2014
Salonga, Leonardo	III	27923	12/31/2015
Feliciano, Romeo	III	10196	06/30/2015
Griffiths, Eric	III	28975	12/31/2015
Operators:			
Gutierrez, Marlene	II	9636	06/30/2015
Palestini, Anthony	II	8521	12/31/2015
Pizarro, Emiliano	II	9863	06/30/2014
Wade, Brian	II	9141	12/31/2014
Alpas, Gilbert	III	6314	12/31/2014
Mohler, Victor	III	28869	06/30/2014
Tomas, Mathew	III	29004	12/31/2015
Rogers, Larry	II	10121	12/31/2015
Valenzuela, Samuel	II	40695	12/31/2014
Childress, Linda	OIT		05/29/2015
Holyfield, Kevin	OIT		09/24/2015
Mercado, William	OIT		12/12/2015
Moreno, Daniel	OIT		09/24/2015
Process Control:			
Nunez, Carlos	III	7626	06/30/2014
Dornfeld, Michael	II	7678	12/31/2014

Report of Operator Certification

The following list includes all Wastewater Treatment Plant Operators working for the Metropolitan Wastewater Department at the Metro Biosolids Center and their California State certification status **as of December 2013**, Name, Certification Grade, Certification Number, and expiration date are shown for each operator.

Metro Bio-solids Center (MBC)

Name	Grade	Cert. No.	Expiration Date
MBC Superintendent:			
Ayers, Barry	V	9346	06/30/2014
Sr. Operations Supervisor:			
Pitchford, Richard	V	9851	06/30/2013
Operation Supervisors:			
Dugdale, Ralph	III	5936	06/30/2013
Evans, Dedric	III	10196	06/30/2014
Howard, Brandon	V	28024	12/31/2014
McKiernan, Shannon	III	7465	12/31/2013
Perea, Frank	III	7968	06/30/2013
Zavala, Javier	III	9635	06/30/2013
Operators:			
Calton, Barry	III	10178	12/31/2014
Johnson, James	II	29021	06/30/2013
Lopez, Sal	II	8476	06/30/2013
Neptune, Eric	II	28839	06/30/2015
Reth, Sony	II	29023	06/30/2013
Reynolds, Benjamin	II	6638	12/31/2013
Wendorf, George	II	9774	12/31/2013
Williams, Hayvert	III	27959	12/31/2013

C. Status of the Operations and Maintenance Manual

Point Loma WWTP:

There is an approved O&M Manual for the PLWWTP. Plant staff continues to review and update the Manual and Standard Operating Procedures (SOP's) as necessary to keep current with changes in equipment, processes, and standards of practice. New procedures are included as needs are identified. For example, PLWWTP Staff, in conjunction with the Safety Staff, have developed and established a standard Lock-Out/Tag-Out Program to serve all MWWD Facilities.

Plant Personnel continue the ISO certification and operate the PLWTP facility under the guidelines of the Environmental Management System established under our ISO 14001 program. This program has helped to organize and consolidate facility SOP's, and has been effective in enhancing plant personnel's awareness of industrial and environmental issues as they relate to the work place.

VIII. Appendices

A. Terms and Abbreviations used in this Report
B. Methods of Analysis
C. Frequency of Analysis and Type of Sample
D. Laboratories contributing Results used in this report
E. QA Summary Report
F. Staff Contributing to this Report
G. System wide calculation definition

A. Terms and Abbreviations used in this Report

Along with standard abbreviations the following is a list of local/uncommon abbreviations and terms for the readers' reference.

PLANT TERMS

U.S.EPA	- United States Environmental Protection Agency.
NPDES	- National Pollutant Discharge Elimination System.
WWTP	- Wastewater Treatment Plant.
WRP	- Water Reclamation Plant.
PLWWTP	- Pt. Loma Wastewater Treatment Plant
PLR	- Point Loma Raw (influent to the plant).
PLE	- Point Loma Effluent (effluent from the plant).
N-1-P	- North Digester Number 1, Primary, Pt. Loma
N-2-P	- North Digester Number 2, Primary, Pt. Loma
C-1-P	- Central Digester Number 1, Primary, Pt. Loma
C-2-P	- Central Digester Number 2, Primary, Pt. Loma
S-1-P	- South Digester Number 1, Primary, Pt. Loma
S-2-P	- South Digester Number 2, Primary, Pt. Loma
Dig 7	- Digester Number 7, Primary, Pt. Loma
Dig 8	- Digester Number 8, Primary, Pt. Loma
DIG COMP	- Digested Biosolids Composite; a composite of grabs taken from each of the in-service digesters.
RAW COMP	- A Composite of Raw Sludge taken over the preceding 24 hrs.
NCWRP	- North City Water Reclamation Plant
N01-PS_INF	- The plant primary Influent from Pump Station 64
N01-PEN	- The plant primary Influent from the Penasquitos pump station.
N30-DFE	- Disinfected Final Effluent
N34-REC WATER	- Reclaimed Water.
N10-PSP COMB	- raw sludge
N15-WAS LCP	- Waste Activated Sludge – low capacity pumps
MBC	- Metro Biosolids Center
MBCDEWCN	- Metro Biosolids Center Dewatering Centrifuges; typically the dewatered biosolids from these.
MBC_COMBCN	- MBC Combined Centrate; the centrate from all the dewatering centrifuges. (The return stream from MBC to the sewer system.)
MBC_NC_DSL	- North City to Metropolitan Biosolids Center (MBC) Digested Sludge Line.
Dig 1	- MBC Digester number 1.
Dig 2	- MBC Digester number 2.
Dig 3	- MBC Digester number 3.
Biosolids	- In most cases Biosolids and digested (a processed) Sludge is synonymous.
Field Replicate	- Separate samples collected at approximately the same time from the same sample site.

UNITS

mg/L .... milligrams per liter
ug/L ....micrograms per liter = 0.001 mg/L
ng/L .... nanograms per liter = 0.001 ug/L
mg/Kg .... milligrams per kilogram
ug/Kg .... micrograms per kilogram
ng/Kg .... nanograms per kilogram
pg/L .... picograms per liter
pg/Kg ....picograms per kilogram
pc/L or pCi/L .... pico curies per liter
TU.. toxicity units
ntu .... nephelometric turbidity units
^{o}C .... degrees Celsius = degrees centigrade
MGD..................................... million gallons per day
umhos/cm. . ... micromhos per centimeter
uS..microsiemens = umhos
mils/100 mL...................... millions per 100 milliliters
nd..not detected
NA .... not analyzed (when in a data column)
NR ....not required
NS...not sampled

CHEMICAL TERMS & ABBREVIATIONS:

AA ....Atomic Absorption Spectroscopy
BOD....................Biochemical Oxygen Demand
BOD_5 .... 5-Day Biochemical Oxygen Demand
CN^-......................Cyanide
COD....................Chemical Oxygen Demand
Cr^{6+} ....Hexavalent Chromium
D.O. ....Dissolved Oxygen
DDD ....Dichlorodiphenyldichloroethane
...........................(a.k.a. TDE- tetrachlorodiphenylethane)
DDE....................Dichlorodiphenyldichloroethylene
DDT....................Dichlorodiphenyltrichloroethane
$FeCl_3$ ....Ferric Chloride
G&O ....Grease and Oil
GC ....Gas chromatography.
GC-ECD ....Electron Capture Detector
GC-FID...............Flame Ionization Detector
GC-FPD..............Flame Photometric Detector
GC-MS ....Mass Spectroscopy
H_2S......................Hydrogen Sulfide
Hg ....Mercury
IC ....Ion Chromatography
ICP-AES ....Inductively Coupled Plasma-Atomic Emission Spectroscopy
MDL ....Method Detection Limit
MSD ....Mass Spectroscopy Detector
NH_3 ....Ammonia
NH_3-N.................Ammonia Nitrogen
NH_4^+ ....Ammonium ion
NO_3^- ....Nitrate
PAD ....Pulsed Amperometric Detector
PCB ....Polychlorinated Biphenyls
PO_4^{3-} ....Phosphate
SO_4^{2-} ....Sulfate
SS........................Suspended Solids
TBT ....Tributyl tin
TCH ....Total Chlorinated Hydrocarbons (i.e. chlorinated pesticides & PCB's)
TCLP ....Toxicity Characteristic Leaching Procedure
TDS ....Total Dissolved Solids
TS ....Total Solids
TVS ....Total Volatile Solids
VSS.....................Volatile Suspended Solids

B. Methods of Analysis

WASTEWATER INFLUENT and EFFLUENT (General)

Analyte	**Description**	**Instrumentation**	**Reference**[1]
Alkalinity	Selected Endpoint Titration	Mettler DL-21 & 25 Titrator Orion 950	(i) 2320 B
Ammonia Nitrogen	Distillation and Titration	Buchi Distillation Unit K-314, B-324, K-350 Orion 950 pH Meter Mettler DL25 titrator	(i) 4500-NH3 B & C
Biochemical Oxygen Demand (BOD-5 Day)	Dissolved Oxygen Meter with Dissolved Oxygen Probe	YSI-5000 DO Meter YSI-5100 DO Meter YSI 59 DO Meter (5905 Probe)	(i) 5210 B
Biochemical Oxygen Demand (BOD-Soluble)	Dissolved Oxygen Probe	YSI-5000 DO Meter YSI-5100 DO Meter YSI 59 DO Meter (5905 Probe)	(i) 5210 B
Chemical Oxygen Demand (COD)	Closed Reflux / Colorimetric	Hach DR-2010 UV/Vis spectrophotometer	HACH 8000
Conductivity	Conductivity Meter with Wheatstone Bridge probe	YSI-3100, YSI-3200, Orion 115A,Orion 250, Accumet Model 150	(g) 2510 B
Cyanide	Acid Digest/Distil./Colorimetric	Hach DR-4000/Vis	(i) 4500-CN E
Floating Particulates	Flotation Funnel	Mettler AX-105 Mettler AG 204 Balance	(g) 2530 B
Flow	Continuous Meter	Gould (pressure sensor), ADS (sonic sensor), or Venturi (velocity sensor)	
Hardness; Ca, Mg, Total	ICP-AES / Calculation	TJA IRIS	(a) 200.7 (h) 2340 B
Kjeldahl Nitrogen (TKN)	Macro-Digestion / Titration	Labconco digestion block Buchi B-324 distiller & Mettler DL25 titrator	(i)Digestion= 4500-Norg B
Oil and Grease	Hexane Extraction / Gravimetric	Mettler AX-105 Balance	(a) 1664A
Organic Carbon (TOC)	Catalytic Oxidation / IR Water Production Laboratory)	Shimadzu ASI-5000	(f) 5310 B
pH	Hydrogen+Reference Electrode	Various models of pH meters.	(i) 4500-H+ B
Radiation (alpha & beta)	Alpha Spectroscopy Gamma Spectroscopy	Canberra 7401 (alpha) Canberra GC25185 (beta)	(h) 7110 B
Solids, Dissolved-Total	Gravimetric @ 180°C using analytical balance	Mettler AG204,AX105,AB204	(i) 2540 C
Solids, Settleable	Volumetric	Imhoff Cone	(i) 2540 F
Solids, Suspended-Total	Gravimetric @ 103-105°C	Mettler AG204,AX105,AB204	(i) 2540 D
Solids, Suspended-Volatile	Gravimetric @ 500°C	Mettler AG204,AX105,AB204	(i) 2540 E
Solids, Total	Gravimetric @ 103-105°C	Mettler AG204,AX105,AB204	(a) 160.3
Solids, Total-Volatile	Gravimetric @ 500°C	Mettler AG204,AX105,AB204	(a) 160.4
Temperature	Direct Reading	Fisher Digital Thermometer	(g) 2550 B
Turbidity	Nephelometer Turbidimeter	Hach 2100-N Meter Hach 2100-AN Meter	(g) 2130 B
Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate	Ion Chromatography	Dionex ICS-3000	(d) 300.0

[1] Reference listing is found following this listing of analytical methods.

WASTEWATER INFLUENT and EFFLUENT (Metals)

Analyte	**Description**	**Instrumentation**	**Reference[1]**
Aluminum	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Arsenic	Hydride Generation / AA	Thermo iCE 3000	(h) 3114 C
Barium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Boron	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Cadmium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Calcium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Chromium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Cobalt	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Copper	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Iron	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Lead	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Lithium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Magnesium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Mercury	Thermal / AA	Milestone DMA80	(g) 3112 B
Mercury	Cold Vapor Generation / AF	Leeman Hydra Gold	(w) 1613E and 245.7
Molybdenum	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Potassium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Selenium	Hydride Generation / AA	Thermo iCE 3000	(h) 3114 C
Silver	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Sodium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Thallium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Vanadium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Zinc	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7

[1] Reference listing is found following this listing of analytical methods.

WASTEWATER INFLUENT and EFFLUENT (Organics)

Analyte	Description	Instrumentation	Reference[1]
Acrolein and Acrylonitrile	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(c) 8260 B
Base/Neutral Extractables	Basic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625
Benzidines	Basic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625
Chlorinated Compounds	CH2Cl2 extraction, GC-ECD	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(a) 608
Dioxin	Outside Contract (Frontier)	VG/Micromass 70SE Fisons/Micromass Autospec M Waters /Micromass Autospec M	(w) 1613E
Organophosphorus Pesticides	CH2Cl2 extraction, hexane exchange, GC-PFPD	Varian 3800 GC-PFPD RTX-1 :RTX-50	(a) 622
Phenolic Compounds	Acidic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625
Purgeables (VOCs)	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(a) 8260B
Tri, Di, and Monobutyl Tin	CH2Cl2 extraction, derivatization, hexane exchange, GC-FPD	Varian 3400 GC-FPD DB-608/30m	(l)

[1] Reference listing is found following this listing of analytical methods.

LIQUID SLUDGE: Raw, Digested, and Filtrate (General)

Analyte	Description	Instrumentation	Reference[1]
Alkalinity	Selected Endpoint Titration	Mettler DL-25 Titrator Orion 950	(g) 2320 B
Cyanide	Acid Digest-Distil / Colorimetric	Hach DR/4000V	(h) 4500-CN E
pH	Hydrogen+Reference Electrode	Various models of pH meters.	(c) 9010 B
Radiation (alpha & beta)	Alpha Spectroscopy Gamma Spectroscopy	Canberra 7401 (alpha) Canberra GC25185 (beta)	(h) 7110 B
Sulfides	Acid Digest-Distil / Titration	Class A Manual Buret	(c) 9030 B
Sulfides, reactive	Distillation / Titration	Class A Manual Buret	(c) 7.3.4.2
Solids, Total	Gravimetric @ 103-105°C	Mettler PB 4002-S Mettler PG 5002-S Mettler AB204	(i) 2540 B
Solids, Total-Volatile	Gravimetric @ 500°C	Mettler PB 4002-S Mettler PG 5002-S Mettler AB204	(i) 2540 E

LIQUID SLUDGE: Raw, Digested, and Filtrate (Metals)

Analyte	Description	Instrumentation	Reference[1]
Aluminum	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Arsenic	Hydride Generation / AA	Thermo iCE 3000	(c) 7062
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Barium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Boron	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Cadmium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Chromium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Cobalt	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Copper	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Iron	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Lead	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Mercury	Thermal / AA	Milestone DMA80	(c) 7471 A and 747.3
Mercury	TD / AA	Milestone DMA80	(c) 7471 A
Molybdenum	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Selenium	Hydride Generation / AA	Thermo iCE 3000	(c) 7742
Silver	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Thallium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Vanadium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Zinc	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B

[1] Reference listing is found following this listing of analytical methods.

LIQUID SLUDGE: Raw, Digested, and Decant (Organics)

Analyte	Description	Instrumentation	Reference[1]
Acrolein and Acrylonitrile	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(c) 8260 B (b)
Base/Neutral Extractables	Basic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625 (b)
Benzidines	Basic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625
Chlorinated Compounds	CH2Cl2 extraction, GC-ECD	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8081 A
PCBs	CH2Cl2 extraction, GC-ECD	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8082
Dioxin	Outside Contract (Frontier)	VG/Micromass 70SE Fisons/Micromass Autospec M Waters /Micromass Autospec M	(a) 8290
Organophosphorus Pesticides	CH2Cl2 extraction, hexane exchange, GC-PFPD	Varian 3800 GC-PFPD RTX-1 : RTX-50	(a) 622
Phenolic Compounds	Acidic / CH2Cl2 continuous extraction, GC-MSD	HP-6890GC / 5973MSD Capillary DB-5.625	(a) 625 (b)
Purgeables (VOCs)	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552	(c) 8260 B

		Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(b)
Tri, Di, and Monobutyl Tin	CH2Cl2 extraction, derivatization, hexane exchange, GC-FPD	Varian 3400 GC-FPD DB-608/30m	(l)

LIQUID SLUDGE: Raw, Digested, and Decant (Digester Gases)

Analyte	**Description**	**Instrumentation**	**Reference**[1]
Methane	Gas Chromatography	SRI 8610C GC EG&G 100AGC	(i) 2720 C
Carbon Dioxide	Gas Chromatography	SRI 8610C GC EG&G 100AGC	(i) 2720 C
Hydrogen Sulfide	Colorimetric	Draeger H2S 2/a	

[1] Reference listing is found following this listing of analytical methods.

DRIED SLUDGE: Metro Biosolids Center (General)

Analyte	**Description**	**Instrumentation**	**Reference**[1]
Cyanide	Acid Digest-Distillation Colorimetric	Hach DR/4000V UV/Vis	(c) 9010 A and 9014
Cyanide Reactive	Distillation / Colorimetric	Hach DR/4000V UV/Vis	(c) 7.3.3.2 and 9014
pH	Hydrogen+Reference Electrode	Various models of pH meters.	(c) 9045 C
Radiation (alpha & beta)	Alpha Spectroscopy Gamma Spectroscopy	Canberra 7401 (alpha) Canberra GC25185 (beta)	(h) 7110 B
Sulfides	Acid Digest-Distil / Titration	Class A Manual Buret	(c) 9030 B and 9034
Sulfides, reactive	Distillation / Titration	Class A Manual Buret	(c) 7.3.4.2 and 9034
Solids, Total	Gravimetric @ 103-105 Cº	Denver PI-314, Mettler AB204	(i) 2540 B
Solids, Total-Volatile	Gravimetric @ 500 Cº	Denver PI-314, Mettler AB204	(i) 2540 E

DRIED SLUDGE: Metro Biosolids Center (Metals)

Analyte	**Description**	**Instrumentation**	**Reference**[1]
Aluminum	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Arsenic	Hydride Generation / AA	Thermo iCE 3000	(c) 7062
Barium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Boron	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Cadmium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Chromium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Cobalt	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Copper	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Iron	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Lead	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Mercury	Thermal / AA	Milestone DMA80	(c) 7471 A
Mercury	TD / AA	Leeman Hydra Gold	(c) 7471 A
Molybdenum	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Selenium	Hydride Generation / AA	Thermo iCE 3000	(c) 7742
Silver	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Thallium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B

Vanadium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Zinc	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Waste Extraction Test (WET)	Extraction with Sodium Citrate ICP-AES	Burrel wrist action shaker TJA IRIS	(j) Section 66261.100

[1] Reference listing is found following this listing of analytical methods.

DRIED SLUDGE: Metro Biosolids Center (Organics)

Analyte	**Description**	**Instrumentation**	**Reference[1]**
Acrolein and Acrylonitrile	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(c) 8260 B
Base/Neutral Extractables	CH2Cl2 /Acetone sonication extraction, GC-MSD	Agilent-7890GC / 5975MSD Capillary DB-5.625	(c) 8270 C (c) 3550 A
Chlorinated Compounds	CH2Cl2 extraction, GC-ECD	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8081 A
PCBs	CH2Cl2 extraction, GC-ECD	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8082
Dioxin	Outside Contract (Frontier)	VG/Micromass 70SE Fisons/Micromass Autospec M Waters /Micromass Autospec M	(a) 8290
Organophosphorus Pesticides	CH2Cl2 extraction, hexane exchange, GC-PFPD	Varian 3800 GC-PFPD RTX-1 : RTX-50	(c) 8141 A
Phenolic Compounds	CH2Cl2 / Acetone sonication extraction, GC-MSD	HP-5890GC / 5972MSD Agilent-78906GC / 5975MSD Capillary DB-5.625	(c) 8270 C (c) 3550 A
Purgeables (VOCs)	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(c) 8260 B
Tri, Di, and Monobutyl Tin	CH2Cl2 extraction, derivatization, hexane exchange, GC-FPD	Varian 3400 GC-FPD DB-608/30m	(l)
Total Nitrogen (TN)	Combustion / GC-TCD	Carlo-Erba NC-2500 Porapak QS	(m) 9060

[1] Reference listing is found following this listing of analytical methods.

OCEAN SEDIMENT (General)

Analyte	**Description**	**Instrumentation**	**Reference[1]**
Biochemical Oxygen Demand (BOD-5 Day)	Dissolved Oxygen Probe	YSI-5000 DO Meter	(g) 5210 B
Particle Size	Coarse fraction by sieve; fine fraction by laser scatter	Horiba LA-920	(q) 3-380
Sulfides	Acid Digest-Distil / IC-PAD	Dionex ICS3000-PAD(Ag)	(k)
Solids, Total	Gravimetric @ 103-105 Cº	AND HM-120	(g) 2540 B
Solids, Total-Volatile	Gravimetric @ 500 Cº	AND HM-120	(g) 2540 E
Total Organic Carbon (TOC) and Total Nitrogen (TN)	Combustion / GC-TCD	Carlo-Erba NC-2500 Porapak QS	(c) 9060 (m)

OCEAN SEDIMENT (Metals)

Analyte	Description	Instrumentation	Reference[1]
Aluminum	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Arsenic	Hydride Generation / AA	Thermo iCE 3000	(c) 7062
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Cadmium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Chromium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Copper	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Iron	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Lead	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Mercury	Thermal / AA	Milestone DMA80	(c) 7471 A
Mercury	Cold Vapor Generation / AF	Leeman Hydra Gold	(c) 7471 A
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Selenium	Hydride Generation / AA	Thermo iCE 3000	(c) 7742
Silver	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Thallium	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Tin	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B
Zinc	Acid Digestion / ICP-AES	TJA IRIS	(c) 6010 B

OCEAN SEDIMENT (Organics)

Analyte	Description	Instrumentation	Reference[1]
Base/Neutral Extractables	CH2Cl2 / Acetone ASE GC-MSD	Agilent-7890GC / 5975MSD Capillary DB-5.625	(c) 8270 C (b) 3545A
Chlorinated Compounds	CH2Cl2 extraction, GC-MS/MS	Varian 3800 GC Saturn 2000 MS-Ion Trap DB-XLB/60m	(c) 8081 A 3545A
PCBs as Congeners	CH2Cl2 extraction, GC-MS/MS	Varian 3800 GC Saturn 2000 MS-Ion Trap DB-XLB/60m	(c) 8082 3545A
Organophosphorus Pesticides	CH2Cl2 extraction, hexane exchange, GC-PFPD	Varian 3800 GC-PFPD RTX-1 : RTX-50	(c) 8141 A
Tri, Di, and Monobutyl Tin	CH2Cl2 extraction, derivatization, hexane exchange, GC-FPD	Varian 3400 GC-FPD DB-608/30m	(l)

[1] Reference listing is found following this listing of analytical methods.

FISH TISSUE: Liver, Muscle, and Whole (General)

Analyte	Description	Instrumentation	Reference[1]
Solids, Total	Freeze Drying Gravimetric	Labconco Freezone 6 Mettler AB-204 Balance	(n)
Lipids	Hexane/Acetone Extraction Gravimetric	Dionex ASE-200 Mettler AB-204 Balance	(o)

FISH TISSUE: Liver, Muscle, and Whole (Metals)

Analyte	Description	Instrumentation	Reference[1]
Aluminum	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Arsenic	Acid Digestion / ICP-AES	Thermo iCE 3000	(c) 7742
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Cadmium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Chromium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Copper	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Iron	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Lead	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Mercury	Thermal / AA	Milestone DMA80	(e) 7473
Mercury	Cold Vapor Generation / AF	Leeman PS Hydra Gold	(w) 1631E
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Selenium	Hydride Generation / AA	Thermo iCE 3000	(c) 7742
Silver	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Thallium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Tin	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7
Zinc	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.3 / 200.7

FISH TISSUE: Liver, Muscle, and Whole (Organics)

Analyte	Description	Instrumentation	Reference[1]
Base/Neutral Extractables	Basic / CH2Cl2 ASE extraction, GC-MSD	Dionex ASE-200 Agilent-7890GC/5975 MSD Capillary DB-5625	(c) 3545 / 8270 C
Chlorinated Compounds	CH2Cl2 extraction, GC- MS/MS	Varian 3800 GC Saturn 2000 MS-Ion Trap DB-XLB/60m	(c) 3545 / 8081 A
PCBs	CH2Cl2 extraction, hexane exchange, GC- MS/MS	Varian 3800 GC Saturn 2000 MS-Ion Trap DB-XLB/60m	(c) 3545 / 8082

1 Reference listing is found following this listing of analytical methods.

Method References: Methods of Analysis Used to Produce the Data Presented in this Report.

a) Methods for Chemical Analysis of Water and Wastes,
EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio,
March 1979 (EPA-600/4-79-020), 1983 Revision, and March 1984 (EPA-600/4-84-017).

b) U.S. EPA Contract Laboratory Program, Statement of Work for Organic Analysis,
Multi-Media, Multi-Concentration, 7/85 revision and 1/91 revision.

c) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
U.S. EPA Office of Solid Waste and emergency Response,
Washington, D.C. 20460, November 1986, SW-846, Third Edition.
Revision 0 September 1994, December 1996, Revision 2

d) The Determination of Inorganic Anions in Water by Ion Chromatography,
Revision 2.1, August 1993

e) The Determination of Metals and Trace Elements in Water and Waste
Revision 4.4, EMMC Version, EMMC Methods Work Group, 1994

f) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 17th Edition, 1989.

g) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 18th Edition, 1992.

h) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 19th Edition, 1995.

i) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 20th Edition, 1998.

j) Criteria for Identification of Hazardous and Extremely Hazardous Wastes,
California Code of Regulations (CCR), Title 22.

k) DIONEX AU 107, R.D.Rocklin and E.L.Johnson, ANAL. CHEM., 1986, 55, 4

l) Adaptation of method by the Naval Ocean Systems Center, San Diego, Marine Environment Branch, San Diego, CA 92152-5000

m) ”TOC/TN in Marine Sediments...”, SCCWRP Annual Report, 1990-1991, and 1991-1992.

n) ”A Guide to Freeze Drying for the Laboratory...”, LABCONCO, 3-53-5/94-Rosse-5M-R3, 1994.

o) ”Lipids Content in Fish Tissues via Accelerated Solvent Extraction...”,WWChem, EMTS/MWWD, 1998

v) Procedures for Handling and Chemical Analysis of Sediment and Water Samples,
Russel H. Plumb, Jr., May 1981, EPA/Corp of Engineers Technical Committee on
Criteria for Dredged and Fill Material, EPA Contract 4805572010.

w) Method 1631, Revision E:,
Mercury in water by oxidation, purge and trap, and cold vapor atomic fluorescence spectrometry

C. Frequency of analysis and Type of Sample - 2013

CONSTITUENT	Frequency	Sample Type	Permit Required Influent	Permit Required Effluent	Comments
Process Control					
Biochemical Oxygen Demand -Total	Daily	Composite	X	X	
Biochemical Oxygen Demand -Soluble	Daily	Composite			Monday-Friday
Chemical Oxygen Demand	Weekly	Composite			
Conductivity	Weekly	Composite			
Floating Particulates	Daily	Composite	X	X	
Flow	Daily		X	X	Same meter used
Oil and Grease	Daily	Grab	X	X	
pH	Daily	Grab	X	X	
Settleable Solids	Daily	Grab	X	X	
Temperature	Daily	Grab	X	X	
Total Dissolved Solids	Daily	Composite	X	X	
Total Solids	Weekly	Composite			
Total Suspended Solids	Daily	Composite	X	X	
Total Volatile Solids	Weekly	Composite			
Turbidity	Daily	Composite	X	X	
Volatile Suspended Solids	Daily	Composite	X	X	
Metals					
As,Cd,Cr,Cu,Pb,Hg,Ni,Se,Ag,Zn	Weekly	Composite	X	X	
Sb, Be, Tl	Weekly	Composite	X	X	Req. Frequency=Monthly
Fe	Weekly	Composite			
Ions					
Alkalinity	Weekly	Composite			
Ammonia-Nitrogen	Weekly	Composite	X	X	
Anions (F-,Cl-,Br-,SO42-,NO3-,PO43-)	Weekly	Composite			
Cations (Ca2+, Mg2+, Li+,Na+,K+)	Weekly	Composite			
Cyanide	Weekly	Composite	X	X	
Hardness (Total, Ca, Mg)	Weekly	Composite			By calculation
Organic Priority Pollutants					
Acrolein and Acrylonitrile	Monthly	Grab	X	X	Method 8260
Base/Neutral Compounds	Monthly	Composite	X	X	Method 625
Benzidines	Monthly	Composite	X	X	Method 625
Dioxin	Monthly	Composite	X	X	Method 1613
Pesticides, chlorinated	Monthly	Composite	X	X	
Pesticides, organophosphorus	Semi-Annual	Composite			
Phenols, non-chlorinated	Weekly	Composite	X	X	Method 625
Phenols, chlorinated	Weekly	Composite	X	X	Method 625
Polychlorinated Biphenyls	Weekly	Composite	X	X	
Purgeable (Volatile) Compounds	Monthly	Grab	X	X	Method 8260
Tri, Di, & monobutyl tins	Monthly	Composite	X	X	
Miscellaneous					
Radiation	Monthly	Composite	X	X	Performed by a contract lab.
Toxicity (Acute & Chronic)	Monthly	Composite	X		Reported in the monthly Toxicity Testing Report by the Biology Section

D. Laboratories Contributing Results used in this report.

i. Metropolitan Wastewater Chemistry Laboratory (EPA Lab Code: CA00380, ELAP Certificate: 1609)
5530 Kiowa Drive
La Mesa, CA 91942
(619)668-3212
All results except those listed below.

ii. Point Loma Wastewater Chemistry Laboratory
(EPA Lab Code: CA01435,
ELAP Certificate: 2474)
1902 Gatchell Road
San Diego, CA 92106
(619)221-8765
Process control analyses and wet methods for the plant.

iii. North City Wastewater Chemistry Laboratory
(EPA Lab Code: CA01436,
ELAP Certificate: 2477)
4949 Eastgate Mall
San Diego, CA 92121
(858)824-6009
Process control analyses and wet methods for the plant.

iv. Metro Biosolids Center Chemistry Laboratory
(EPA Lab Code: CA01437,
ELAP Certificate: 2478)
5240 Convoy Street
San Diego, CA 92111
(858)614-5834
Process control analyses and wet methods for the plant.

v. South Bay Water Reclamation Plant
(EPA Lab Code: CA01460,
ELAP Certificate: 2539)
2411 Dairy Mart Road
San Diego, CA 92173
619.428.7349
Process control analyses and wet methods for the plant.

vi. City of San Diego - Water Quality Laboratory
(EPA Lab Code: CA00080,
ELAP Certificate: 1058)
5530 Kiowa Drive
La Mesa, CA 91942
(619)668-3237
Total Organic Carbon in Wastewater

vii. City of San Diego - Marine Microbiology and Vector Management
(EPA LabCode: CA01393, ELAP Certificate: 2185)
4918 Harbor Drive, Suite 101
San Diego, CA 92106
(619) 758-2312
Microbiology

viii. City of San Diego - Toxicity Bioassay Laboratory
(EPA Lab Code: CA01302,
ELAP Certificate: 1989)
4918 Harbor Drive, Suite 101
San Diego, CA 92106
(619) 758-2347
Bioassays

ix. Frontier Analitical Laboratory
(EPA Lab Code:CA014455,
NELAP- Certificate: 02113CA)
5172 Hillsdale Circle
El Dorado Hills, CA95762
(916) 934-0900

x. Test America (EPA Lab code: WA00023,
CA ELAP Certification: 2425
2800 George Washington Way
Richland, WA 99354-1613
Telephone# (509) 375-3131
Gross Alpha/Beta Radioactivity

xi. Test America
2960 Foster Creighton Drive
Nashville, TN 37204
NELAP Certification: 01168CA
Telephone# (615) 726-0177

E. QA Report Summary

Summary and Overview:

The Wastewater Chemistry Services Section, Public Utilities Department, City of San Diego performs most of the NPDES and other permit and process control chemical and physical testing for the City of San Diego E.W. Bloom, Pt. Loma Wastewater Treatment Plant (PLWWTP), North City Water Reclamation Plant (NCWRP), South Bay Water Reclamation Plant (SBWRP), and the Metro Biosolids Center (MBC). We also perform the chemical/physical testing of ocean sediment and fish tissue samples for the Ocean monitoring program for the City of San Diego (PLWWTP Ocean Outfall and SBWRP Ocean Outfall) and the International Boundary and Water Commission, International Treatment Plant outfall. We also perform environmental testing for various customers, both internal to the City of San Diego and for other agencies.

The QA/QC activities of the Laboratory are comprehensive and extensive. Of the 35,042 samples received in the Laboratory in 2013, approximately 24.6% were Quality Control (QC) samples, such as blanks, check samples, standard reference materials, etc. 113 different analyses were performed throughout the year resulting in 262,628 analytical determinations. Of the determinations, 105,857 (~40%) were QC determinations (e.g. blanks, lab, replicates, matrix spikes, surrogates, etc.) used to determine the accuracy, precision, and performance of each analysis and batch.

We have 5 separate laboratory facility locations, each with it’s own California ELAP (Environmental Laboratory Accreditation Program) certification for the fields of testing required under California regulations. This is a rigorous program involving continuing independent blind performance testing, biannual comprehensive audits, and extensive documentation requirements. Each of the 5 laboratory facilities in the Public Utilites Department are independently certified and
California ELAP certifies fields of testing (methods/analytes) only for Water, Wastewater, and Hazardous materials for which methods are published in the Federal Register or specifically approved in regulation by U.S.EPA. Additionally, the Laboratory performs analyses using methods for which certification does not exist, such as ocean sediment and sea water determinations. Those methods have been developed in-house, derived from or in collaboration with other scientific laboratories (e.g. Scripps Institute of Oceanography, Southern California Coastal Water Research Project, et. al.) and have been used extensively in multi-agency EPA and State sponsored studies over the past several years. Many methods of analysis developed for matrices and applications not within ELAP jurisdiction have been adapted from ELAP listed methods. In all cases, we apply generally accepted standards of performance and quality control to methods.

Additionally, the operating division and all Public Utilities Department Laboratories maintained International Standards Organization (ISO) 14001 Environmental Management Systems certification.

Contract laboratories are also required to use only approved methods for which they hold certification, and/or are approved by the appropriate regulatory agency (e.g. SDRWQCB).

The following report summarizes the QA/QC activities during 2013 and documents laboratory information and certifications for those laboratories which provided data used in NPDES and other permit monitoring or environmental testing during the year.

Laboratories Contributing Results used in this report.

Laboratory Name	EPA Lab Code	ELAP Cert.#	Address	Phone #	Contribution
Alvarado Wastewater Chemistry Laboratory	CA00380	1609	5530 Kiowa Drive L Mesa, CA 91942	(619)668-3212	All results except those listed below.
Pt. Loma Wastewater Chemistry Laboratory	CA01435	2474	1902 Gatchell Road San Diego, CA 92106	(619)221-8765	Process Control Ananlyses and wet mehtod for the treatment plant.
North City Wastewater Chemistry Laboratory	CA01436	2477	4949 Eastgate Mall San Diego, CA 92121	(858)824-6009	Process Control Ananlyses and wet mehtod for the treatment plant.
Metro Biosolids Center Chemistry Laboratory	CA01437	2478	5240 Convoy Street San Diego, CA 92111	(858)614-5834	Process Control Ananlyses and wet mehtod for the treatment plant.
South Bay Wastewater Chemistry Laboratory	CA00080	2539	2411 Dairy Mart Road San Diego, CA 92173	(619)428-7349	Process Control Ananlyses and wet mehtod for the treatment plant.
City of San Diego Water Quality Laboratory	CA01393	1058	5530 Kiowa Drive La Mesa, CA 91942	(619)668-3237	Total Organic Carbon in Wastewater
City of San Diego- Marine Microbiology	CA01302	2185	2392 Kincaid Road San Diego, CA 92101	(619)758-2312	Microbiology
City of San Diego Toxicology Laboratory		1989	2392 Kincaid Road San Diego, CA 92101	(619)758-2341	Bioassays
TestAmerica Laboratories, Inc		2425	2800 George Washington Way, Richland, WA 99354	(509)375-3131	Gross Alpha/Beta Radioactivity
TestAmerica Nashville Division		01168CA	2960 Foster Creighton Drive Nashville, TN 37204	(615)756-0177	Herbicides
Frontier Analytical Laboratory		02113CA	5172 Hillsdale Circle El Dorado Hills, CA 95762	(916)934-0900	Dioxin/Furan Wastewater and Solids

Facilities & Scope:

The Wastewater Chemistry Services Section (WCS) comprises five geographically separated laboratories. The Section's main laboratory facilities and headquarters located at the Alvarado Joint Laboratory building in La Mesa and the four satellite wastewater chemistry laboratories located at MWWD treatment plants maintain individual California Department of Health Service, Environmental Laboratory Accreditation Program (ELAP) certification in their respective Fields of Testing (FoT). Each laboratory has its own U.S.EPA Lab Code as shown in the following table.

Laboratory Facility	Laboratory	Address	Phone	EPA Lab. Code	ELAP Cert. No.
Alvarado Laboratory	Wastewater Chemistry Laboratory	5530 Kiowa Drive, La Mesa CA 91942	619.668.3215	CA00380	1609
Point Loma Satellite Lab	Pt. Loma Wastewater Chemistry Laboratory	1902 Gatchell Rd., San Diego, CA 92106	619.221.8765	CA01435	2474
North City Water Reclamation Plant Satellite Lab	North City Wastewater Chemistry Laboratory	4949 Eastgate Mall, San Diego, CA 92121	858.824.6009	CA01436	2477
Metro Biosolids Center Satellite Lab	Metro Biosolids Center Wastewater Chemistry Lab	5240 Convoy Street, San Diego, CA 92111	858.614.5834	CA01437	2478
South Bay Water Reclamation Plant Satellite Lab	South Bay Wastewater Chemistry Laboratory	2411Dairy Mart Rd., San Diego CA 92154	619.428.7349	CA01460	2539

The information presented in this report applies to the Wastewater Chemistry Services Section, including all of the laboratories listed above, unless specified otherwise. The main laboratory at Alvarado is the main office for the WCS and contains the most extensive laboratory facilities of the several laboratories. Along with a variety of process control and wet chemistry analyses, this facility also handles all of the trace metals, pesticides/organics determinations, and other analyses. The satellite laboratories are primarily dedicated to process control, wet chemistry, and other analyses directly related to the support of the operations of the co-located wastewater treatment plant.

The Wastewater Chemistry Services Section performs most of the NPDES and other permit and process control chemical and physical testing for the:

- E.W. Blom, Pt. Loma Wastewater Treatment Plant (PLWWTP), NPDES Permit No. CA0107409/ Order No. R9-2009-0001, including the ocean monitoring program.
- North City Water Reclamation Plant (NCWRP), Order No. 97-03.
- Metro Biosolids Center (MBC), no permit, but monitoring requirements contained in Permit No. R9-2009-0001.
- South Bay Water Reclamation Plant (SBWRP), NPDES Permit No.CA0109045/ Order No. 2013-0006.
- Ocean monitoring program for the International Boundary and Water Commission, International Treatment Plant.
- Other environmental testing for various customers, both internal to the City of San Diego and other public agencies.

A small portion of the required monitoring testing was outsourced out to laboratories certified by ELAP for those analyses, specifically;

- Gross alpha- and Beta radiations are analyzed by Test America Laboratories, Inc., Richland Division
- Herbicides are analyzed by Test America Laboratories, Inc, Nashville Division
- Total organic carbon (TOC) in water are analyzed by the Water Quality Laboratory, City of San Diego, Water Department.
- Dioxin and Furans in solids and wastewater are analyzed by Frontier Analytical Laboratory.

The City of San Diego pays for additional QC samples (replicates, blanks, and spikes) as a routine quality check on contracted laboratory work. This is beyond the usual and customary practices with contract laboratory work.

<u>Ocean monitoring:</u>

While there are no recognized State certifications for laboratory analyses of marine environmental samples (e.g. seawater, sediments, various tissues, etc.), the City of San Diego has been a leader in the development and standardization of analytical methods for determinations in these areas.

Many of the methods are novel approaches developed after extensive research and development from other published work (e.g. organo-tin analyses, sediment grain size, etc.) or adaptations of exiting EPA methods (e.g. SW 846 Method 8082 for PCB congeners in sediments, etc.). In all of these cases we participate in extensive inter-laboratory calibration studies. Some of the most extensive studies have involved the participation of several public, academic/research, and private laboratories under the umbrella of the Southern California Coastal Water Research Project (SCCWRP). These programs are repeated periodically as part of the Southern California Bight Regional Monitoring/Survey Project. This is a massive sampling and monitoring program participated in by all of the major Publicly Owned Treatment Works (POTWs), California Water Resource Control Boards, and research organizations.

Our laboratory is a reference (referee) laboratory for the NRCC (National Research Council of Canada) CARP-2 Certified Reference Material (CRM) for fish tissue. This was adopted as the standard reference material for QC QA for the Southern California Bight Regional Project. This sample is also used world-wide as a standard reference material. We have worked with NIST to develop a West Coast marine sediment and fish tissue standard reference material (SRM).

QA/QC Activities Summary:

Report for January 1, 2013 - December 31, 2013.[17]
The sample distribution for 2013 is not significantly changed from 2012. **269,043** analytical determinations were made on **34,284** samples received by the Laboratory in 2013(see table A.). Of these **8,850** or **25.81%** were Quality Control (QC) samples. **13.85%** were blanks and **11.97%** check or reference samples.

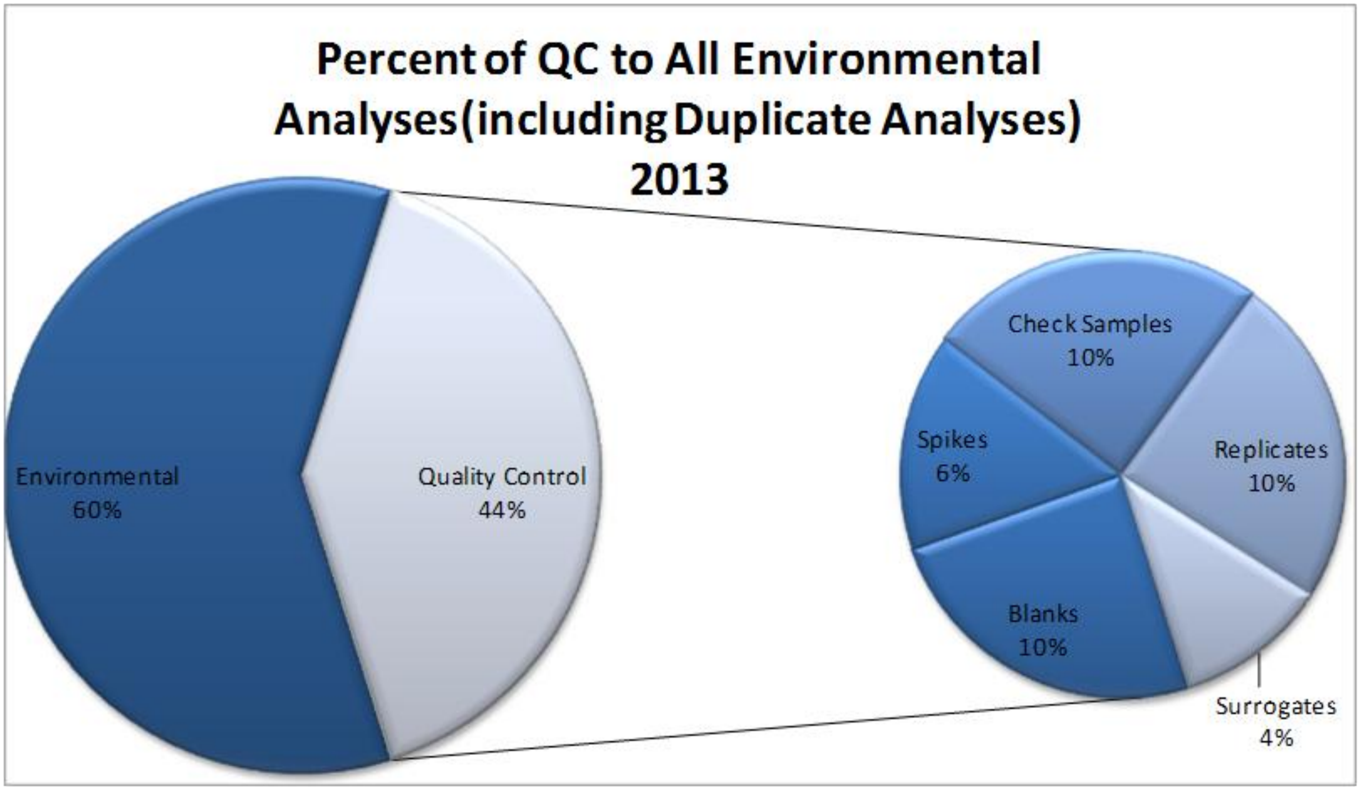
Table A. Samples	2013 Number of Samples	2013 Percent of total samples
Customer/Environmental samples	26,428	75.42%
Quality Control (QC) samples	8,614	24.58%
Total Samples	35,042	100.00%
QC Samples:		
Blanks:		
FIELD_BLANK	215	0.61%
REAGENT_BLANK	18	0.05%
TRIP BLANK	0	0.00%
METHOD_BLANK	4,657	13.29%
Total Blanks:	4,890	13.95%
Check samples:		
External Check samples	2,084	5.95%
Internal Check samples	1,569	4.48%
SRMs (Standard Reference Material)	33	0.09%
Total Check Samples:	3,686	10.52%
Total QC Samples:	8,576	24.47%

High levels of QC are used for laboratory determinations. **40.3%** of the **269,043** determinations were QC (e.g. blanks, lab replicates, matrix spikes, surrogates, etc.). If calculated for the **240,514** customer determinations only, the percentage increases to **44.0%**.

8.96% of total analytical determinations or of analytical batches did not meet internal QA review due to a variety of criteria, e.g. unsuccessful calibration, unacceptable QC performance, etc. Samples having analytical determinations that were rejected are reanalyzed, or, if that is not possible, the data is either not reported or reported but flagged as having not met data quality objectives and may not be suitable for compliance determination.

17 Data counts (metrics) were obtained on March 21, 2013 and do not include analyses that were underway, but incomplete as of that time. All table data is based on samples collected between January 1, 2012 and December 31, 2012. This data summary is comprehensive; includes all laboratory analyses work for all customers, projects, and programs unless otherwise indicated.

Table A.2. Analyses (results) - 2013	Number	Percent of total
Total number of analytes/results determined:	262,628	NA
Total results not complete [2]:	17,008	6.5%
No. of results for Customer/ Environmental Samples [1,3]:	240,514	91.6%
Total number of rejected results:	22,114	9.26%
No. of results for blanks [3]:	25,884	9.9%
No. of results for matrix spikes [3]:	16,705	6.4%
No. of results for Check samples [3]:	26,087	9.9%
No. of results for Replicates [3]:	25,422	9.7%
No. of results for surrogates [3]:	11,759	4.5%
Total QC analyses run [3]:	105,857	**40.3%**



1 – matrix spike, replicates, surrogates are also part of the total for Customer/Environmental samples.
2 – as of March 06, 2014.
3 – percent of QC samples calculated from grand total of **269,043**.

NOTE: Analysis, for the purposes of the metrics used in this report generally refer to each analyte determined in each sample in a batch. For example, an analysis (determination) of several metals in a sample (e.g. iron, nickel, lead) would total as 3 analyses in the expression of totals such as those in the Analyses table on the preceding page. This method of calculation has been used for many years and, with batch and method, is useful comparative measure of laboratory performance and is one of the fundamental constants in applying quality control measures.

	No. of Batches	Percent of total
Total number of analytical batches:	**15,402**	
Total number of rejected analytical batches:	**98**	**0.64%**
Incomplete batches (as of March 14, 2014):	**149**	**0.97%**

Outside laboratories

A small number of permit required analyses are contracted out, including gross alpha- & Beta- radiation, and Total Organic Carbon in wastewater as summarized below. Herbicides analysis contracted to Test America Laboratory.

Results from sub-contracted labs.		
Laboratory	Analytes	% of Total in-house Analytes
Test America	394	0.16%
Frontier Laboratory	4,590	1.92%
Water Quality, City of San Diego	140	0.06%
Total outside results:	**5,124**	**2.15%**

QA Plan:

The Quality Assurance Plan was updated in March 2013.

Performance Testing (PT) Studies for 2013:

The Wastewater Chemistry Laboratories participates in required ELAP and U.S.EPA PT studies throughout the year. We participated in 13 PT studies in 2013. Each of our geographically separated laboratory facilities participated individually (as required by ELAP). PT studies were purchased from Wibby and Phenova and were successfully completed. When results submitted were determined to be outside of study acceptance limits the laboratory reviewed internal protocols, modified procedures were necessary and participated in a subsequent study for the analytes in question. A PT study was completed with satisfactory results for all analytes by in-house chemistry laboratories.

The results of the Laboratory PT studies for 2013 are summarized in the following tables.

Alvarado Wastewater Chemistry Laboratory:

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
HW-0113	20	20	100%
HW-0413	90	90	100%
HW-0513	1	1	100%
HW-0713	47	47	100%
HW-1013	4	4	100%
RP-11471	1	1	100%
SOIL- 82	2	2	100%
WP-0213	8	8	100%
WP-0313	73	73	100%
WP-0413	51	47	92.2%
WP-0713	32	32	100%
WP-1113	19	19	100%
Total analytes:	348	**344**	**Overall:** 98.9%

North City Chemistry Laboratory:

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0513	2	2	100%
WP-0413	14	14	100%
Total analytes:	16	**Overall:**	100%

Metro Biosolids Center (MBC) Chemistry Laboratory:.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0413	5	5	100%
Total analytes:	5	**Overall:**	100%

Pt. Loma Wastewater Chemistry Laboratory:

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0413	6	6	100%
WP-0513	7	7	100%
Total analytes:	13	**Overall:**	100%

South Bay Wastewater Chemistry Laboratory:

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0213	15	15	100%
WP-0219	1	1	100%
WP-0413	1	1	100%
Total analytes:	17	**Overall**	100%

F. Staff contributing to this Report

Staff Contributing to this Report in 2013

Initials	ID	First Name	Last Name	Signature
BOA	BOA	Ben	Andoh	
TB	TSB	Tan	Bao	
VB	VEB	Virginia	Basilan	
EB	BTX	Enrique	Blanco	
BGB	N8B	Brent	Bowman	
LC	UEC	Laura	Carr	
JC	G3C	Jose	Castro	
JCM	U8C	Jacqueline	Cazares-Medina	
NC	NLC	Nancy	Coglan	
SC	SCORIA	Salvador	Coria	
MC	M5C	Maricela	Coronel	
JCM	G8C	Jerry	Czajkowski	
KD	KOD	Ken	Dang	
BD	BDONAHUE	Brad	Donahue	
SD	SDRAPER	Sara	Draper	
HHD	HZD	Heather	Duckett	
ACD	AD4	Angelica	Duran	
JTF	JRF	Jeff	Findley	
EFITZ	EFITZGERALD	Erica	Fitzgerald	
KG	KG3	Kenneth	Genz	
MH	MHANNA	Mona	Hanna	
RJ	RCJ	Ron	Jardine	
WLJ	WLJOHNSON	Wendy	Johnson	
LK	LNK	Lee	King	
VK	VK4	Vesselka	Kozarev	
EL	EVL	Estela	Lanez	
LL	Lli	Lin	Li	
AM	M5U	Armando	Martinez	
FM	YBM	Fernando	Martinez	
CGM	M4M	Connie	Mata	
JM	G7M	Jeff	McAnally	
JN	IEN	Jesus	Nieto	
MN	MGZ	Maria	Noller	
LP	LJP	Lorena	Pantoja	
PP	PPARRA	Paola	Parra	
LP	LXP	Leonard	Przybylo	
CAQ	CQ5	Corinna	Quinata	
KR	KRV	Keith	Ruehrwein	
RS	NDS	Robert	Sandoval	
VS	VS7	Victoria	Santibanez	
DWS	DXS	David	Schlickman	
GS	GTS	Greg	Schlimme	
GLS	HIR	Gloria	Siqueiros	
MRS	MWS	Michael	Stewart	
MIS	S49	Margot	Szeterlak	
SV	SCV	Sandra	Valenzuela	
ZV	ZVANSLAGER	Zachary	Vanslager	
JW	AIW	Julie	Webb	
KLW	KLW	Kristof	Witczak	

Figure 1. Chemistry Laboratory Organization Chart.

Public Utilities Department
Environmental Monitoring and Technical Services Division
Wastewater Chemistry Services

Deputy Director
Vacant

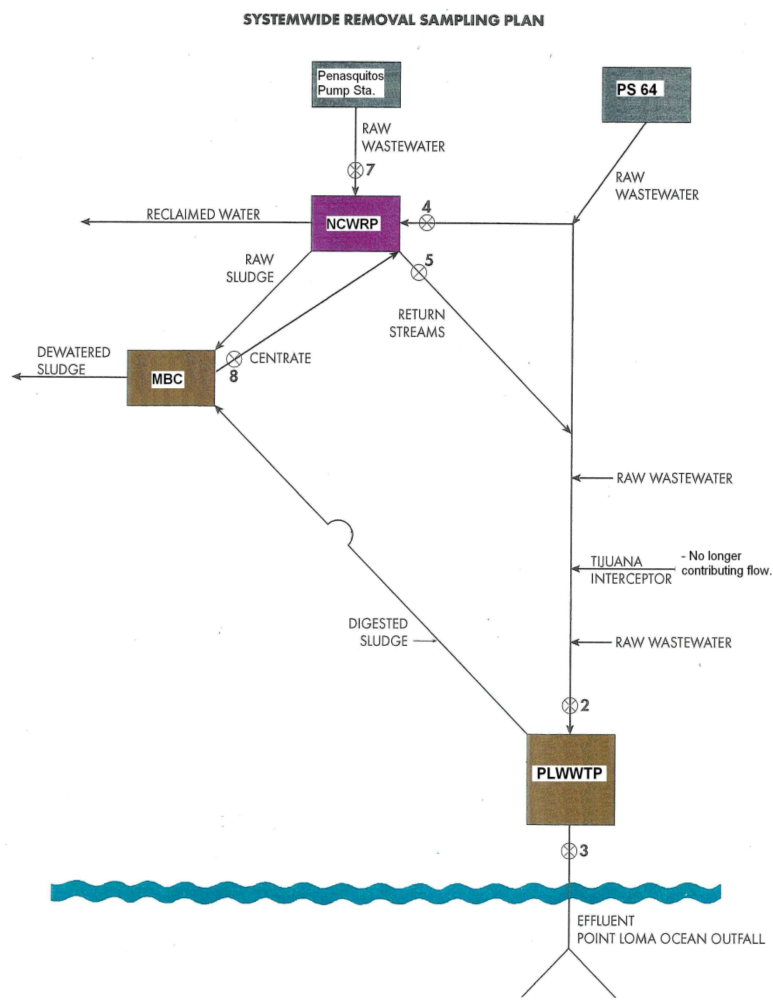
Senior Chemist *1.00*
Brent Bowman

Pesticides/ Wet Chemistry Group *Associate Chemist 1.00* DAVID SCHLICKMAN	***QA/DM Group*** *Associate Chemist 1.00* LEE KING	***Metals Group*** *Associate Chemist 1.00* ROBERT SANDOVAL	***Pt. Loma WWTP / MBC Group*** *Associate Chemist 1.00* SALVADOR CORIA	***South Bay WRP Group*** *Associate Chemist 1.00* SANDRA VALENZUELA	***North City WRP Group*** *Associate Chemist 1.00* NANCY COGLAN	***GC/MS Group*** *Associate Chemist 1.00* JEFF MCANALLY
Assistant Chemists: 6.00 TAN BAO JACQUELINE CAZARES- MEDINA LIN LI LORENA PANTOJA RONALD JARDINE ZACHARY VANSLAGER	*Assistant Chemists: 4.00* FERNANDO MARTINEZ ARMANDO MARTINEZ WENDY JOHNSON JULIE WEBB	*Assistant Chemists6.00* JERRY CZAJKOWSKI JEFF FINDLEY JESUS NIETO LEONARD PRZYBYLO VESSELKA KOZAREV KEN DANG	*Assistant Chemists: 3.00* ENRIQUE BLANCO VIRGINIA BASILAN Vacant	*Assistant Chemists:1.00* GREG SCHLIMME	*Assistant Chemists: 1.00* KRIS WITCZAK	*Assistant Chemists: 4.00* MARIA NOLLER MONA HANNA ESTELA LANEZ MICHAEL STEWART *Asst Chem-Provisional: 1.00* HEATHER DUCKETT
Laboratory Technician: 1.00 MARICELA CORONEL	*Laboratory Technician: 1.00* KEITH RUEHRWEIN	*Laboratory Technician: 2.00* MARGOT SZETERLAK Vacant	*Laboratory Technician: 4.00* CONNIE MATA ERICA FITZGERALD BRADLEY DONAHUE Vacant	*Laboratory Technician: 2.00* JOSE CASTRO ANGELICA DURAN	*Laboratory Technician: 3.00* KENNETH GENZ LAURA CARR PAOLA PARRA	*Laboratory Technician: 1.00* Vacant
Intern:	*Word Processing Operator: 1.00* CORINNA QUINATA *Intern:*	Intern:				

G. System-wide calculation definition

System-wide removals are a practical extension of the “Adjusted Removals” previously reported. Adjusted removals were used to determine removal efficiency of TSS and BOD, during the period when biosolids dewatering occurred at Fiesta Island. The wastewater removed by dewatering (e.g. belt filter press or drying bed decant) was returned to the Point Loma WWTP headworks and contained a certain amount of solids. In order to account for the removal and return of TSS and BOD, on a complete mass-balance basis, the Adjusted Removals were determined. That calculation was relatively straight forward and included removing the contribution to the Pt. Loma WWTP influent of the returned stream. The calculation was done on a mass balance basis to fully account for the solids and BOD contributions returned back to the system.

With the replacement of Fiesta Island biosolids processing by the Metro Biosolids Center (MBC) and the addition of the NCWRP (North City Water Reclamation Plant) in the Metro System, the removal and return of solids to Pt. Loma WWTP was complicated by the addition of multiple inputs and outputs to the system. To calculate the system-wide removals, the net total inputs and outputs were determined and included in the updated calculation18. The determination of System-wide removals is represented by Equation 1 on the next page. This simplified diagram graphically shows the relationships of the input and output streams. The Tijuana interceptor (emergency connection) has not contributed flows since September 2003. The South Bay Water Reclamation Plant (SBWRP) is not shown since it currently has no net contribution or solids removal.



18 Calculations are performed by a computer database application working with Metro System flow and concentration data.

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Equation 1.
System-wide %Removal= (ΣSystem Influents)-(ΣReturn Streams) - (ΣOutfall Discharge) x 100%
                              ΣSystem Influents - ΣReturn Streams

Where,

      System Influents    =     Point Loma Wastewater Treatment Plant Influents,
                                NCWRP Influent Pump Station (i.e. Pump station 64),
                                NCWRP Influent from Penasquitos Pump Station

      Return Streams      =     NCWRP Filter Backwash,
                                NCWRP Plant Drain,
                                NCWRP Secondary Effluent,
                                NCWRP Un-disinfected Filtered Effluent Bypass,
                                NCWRP Final Effluent
                                Metro Biosolids Center Centrate
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The TSS and BOD_5 concentrations, together with the flow rate, of each stream are measured daily and mass emissions (pounds a day) for each stream determined. The above formula is applied on the resultant mass balances and the system-wide removals calculated for each day. In the event that a data value (e.g. flow rate measurement, TSS concentration or BOD_5 concentration) is not available for a stream, the median value for the previous calendar year for that stream is used as a surrogate number to allow completion of the calculation. The annual averages and summaries in the system-wide data tables are derived (arithmetic mean) from the monthly averages of the daily calculated mass emissions values and removal rates.

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