SD Public Utilities

2015 Annual Reports and Summary

Point Loma Wastewater Treatment Plant & Ocean Outfall

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

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ISO 14001

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THE CITY OF SAN DIEGO

June 30, 2016

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 2015 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 S. Vroom, Ph.D.
Public Utilities Deputy Director

EM/caq

Enclosure

cc: EPA Region 9
San Diego County Department of Environmental Health
Distribution
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City of San Diego
Public Utilities Department

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Credits and Acknowledgements

Point Loma Wastewater Treatment Plant and Ocean Outfall Annual Monitoring Report 2015

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I. Introduction

A. Executive Summary
B. Explanatory notes
C. Overview of Metro System
D. Overview of Point Loma Wastewater Treatment Plant
E. Discussion of Compliance Record
F. Plant Facility Operation Report
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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 2015 results, as annual averages or annual ranges, of analyses obtained during the monitoring of the effluent at the PLWTP.

2014 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 %*	69.5 – 72.1%	System-wide (monthly averages).
TSS	Mean Monthly % Removal	≥ 80 %	90.5 – 93.5%	System-wide (monthly averages).
	Monthly Average	75 mg/L	25 – 36	
	Mass Emissions	13,598 mt/yr	5,466	
Oil and Grease	Monthly Average	25 mg/L	9.1 – 15.6	
		42,743 lbs/day	10,189 – 16,930	
	Weekly Average*	40 mg/L	7.0 – 19.0	
		68,388 lbs/day	8,650 – 20,328	
	Maximum at any time	75 mg/L	28.5	
		128,228 lbs/day	30,686	
Settleable Solids	Monthly Average	1.0 mL/L	ND – 0.3	
	Weekly Average*	1.5 mL/L	ND – 0.5	
	Maximum at any time	3.0 mL/L	1.8	
Turbidity	Monthly Average	75 NTU	32-40	
	Weekly Average*	100 NTU	31 – 46	
	Maximum at any time	225 NTU	65.8	
pH	Range	6.0 – 9.0 pH	7.23-7.30	

* = **Weekly Average:** defined as the highest allowable average of daily discharges over a calendar week (Sunday through Saturday). Data averaged from 28-Dec-2014 to 26-Dec-2015 as per definition of weekly average definition.

Other Key metrics for 2015	Annual Daily Average	Annual Total (million gals.)
Effluent Flow (mgd)	131.6	48,034

Parameter	Annual Daily Average (mg/L)	System-wide Removal (%)	Plant Removal (%)	Annual Mass Emission (metric tons)
TSS[3]	30	92.3	91.7	5,466
BOD[4]	110	70.0	66.9	20,043

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 2.2 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.

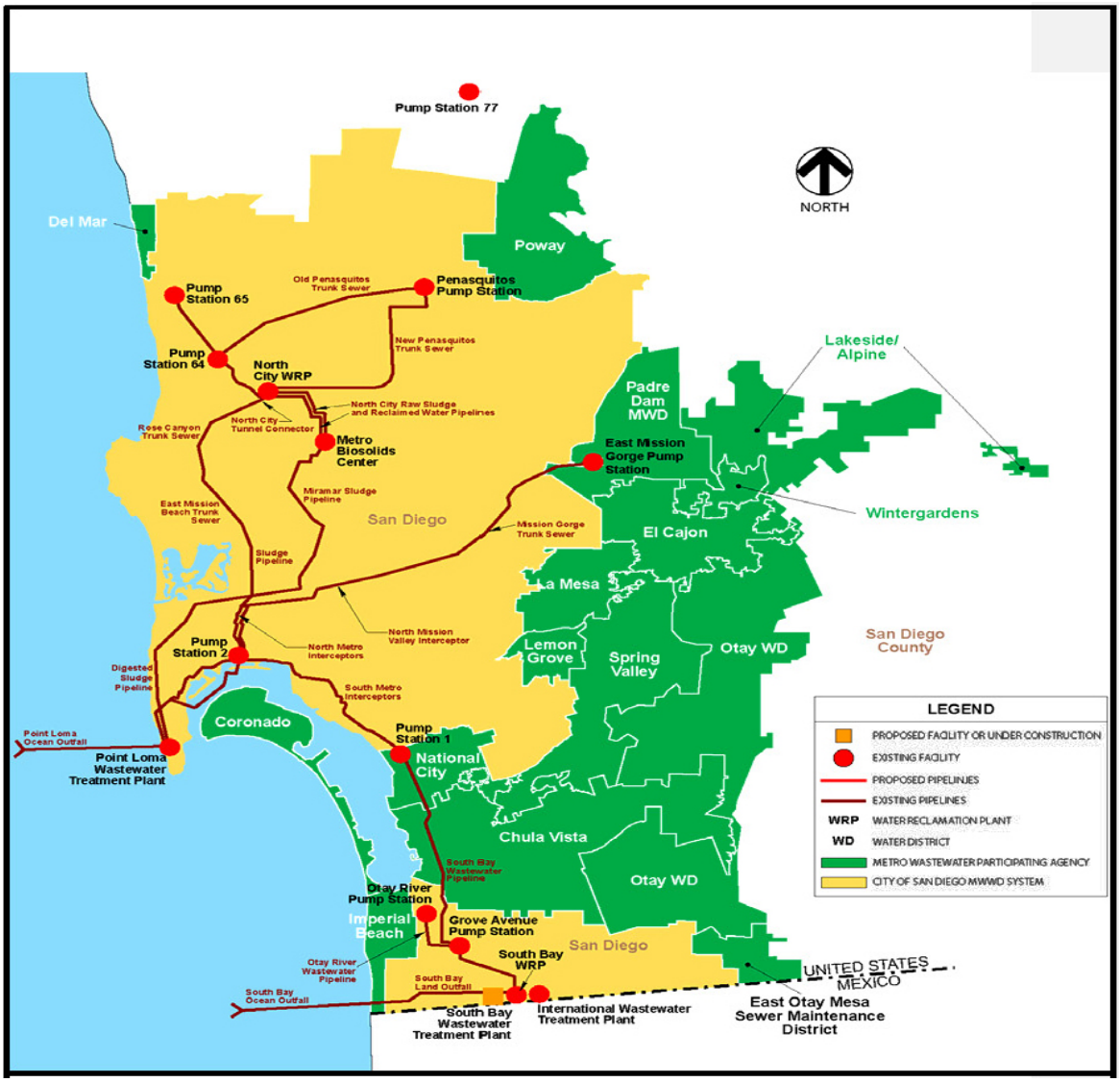
The PLWTP is the largest of the wastewater treatment plants in the System and is the terminus of the system. It is an advanced primary treatment WWTP that uses chemical addition to increase performance of the primary clarifiers. The PLWTP discharges effluent through the Point Loma Ocean Outfall (PLOO). 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 132 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.

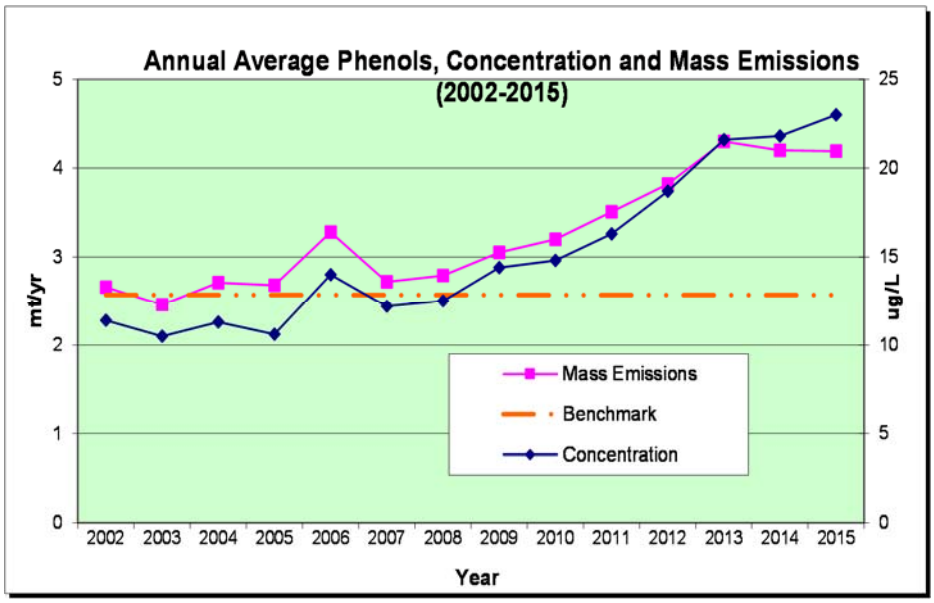
Annual Requirement	**2015 Annual Average System-wide Removal** (%)	Plant Removal (%)
BOD - met the required ≥58% BOD removal on both the system-wide (required) and plant-only basis.	70.0	66.9
	2015 Annual Mass Emission(metric tons)	
TSS - Mass emission of TSS shall be no greater than 15,000 mt/yr.	5,466	

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 4.19 metric tons/year, for non-chlorinated phenols[7] was higher than the bench mark of 2.57 metric tons/year and lower than last year's 4.20 metric tons.
This was based on an average concentration of 23.0 ug/L, which represents approximately 25 pounds per day. On average the plant removed 32.9% 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 2015. IBWC staff reported that the emergency connection was not open during 2015.

No samples were taken the entire year of 2015.

F. Plant Facility Operation Report

POINT LOMA 2015 ANNUAL FACILITY REPORT
Document prepared under the direction of Plant Superintendent Ernie Molas.

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

□ □ □

PROCESS CONTROL: FACTORS IMPACTING PLANT PERFORMANCE 2015
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 2015. 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 2015, ranged from 69.3 to 85.8 degrees 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 2015. 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
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
2014	78.8 degrees Fahrenheit
2015	79.1 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, 2013, 2014 and 2015. 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
2014	27.3 mg/L	165.0 inches	1.12 MGD
2015	29.6 mg/L	168.7 inches	1.08 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 2014. 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 PLWWTP and North City Water Reclamation Plant (NCWRP). City staff is looking at additional sites within the Metro System to implement the PRISC-CEPT process.

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 2014. 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 2015 Daily Average	Ferric Chloride gallons	Ferrous Chloride gallons	Anionic Polymer Lbs	Hydrogen Peroxide gallons
Pump Station 1	0	4998	0	0
Pump Station 2	0	0	0	828
PLWTP	3004*	3705	188*	783
Total	3004	8703	188	1611

*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 2015. 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					
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%
2014	12.5 mg/L	0.17 mg/L	27.3 mg/L	92.1%	109 mg/L	66.4%
2015	13.46 mg/L	0.17 mg/L	29.6 mg/L	91.7%	109 mg/L	66.9%

*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 2015, 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 proved 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.

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. A new monitoring technology was purchased to be installed and tested in 2015. If this unit is found to be successful the result of this new technology may allow the implementation of continuous chlorine residual monitoring at Point Loma. Laboratory testing according to the previously approved protocols is being continued.

CONCLUSIONS

Plant performance in the year of 2015 exceeded all NPDES Permit requirements.

ENGINEERING REPORT 2015

The following projects were completed or operational at the Point Loma Wastewater facility prior to Dec. 2015:
Distributed Control System upgrade to Ovation
Grit Improvement Project
Digester Cleaning (N1P, N2P and C2P)
Digester Roof Repair N1P, N2P, and C2P, DIG#7
South Effluent outfall Channel Repair
Beneficial Use of Digester Gas
Water Softener Replacement
Common Area Improvements

Status of the Operations and Maintenance Manual

Point Loma WWTP:

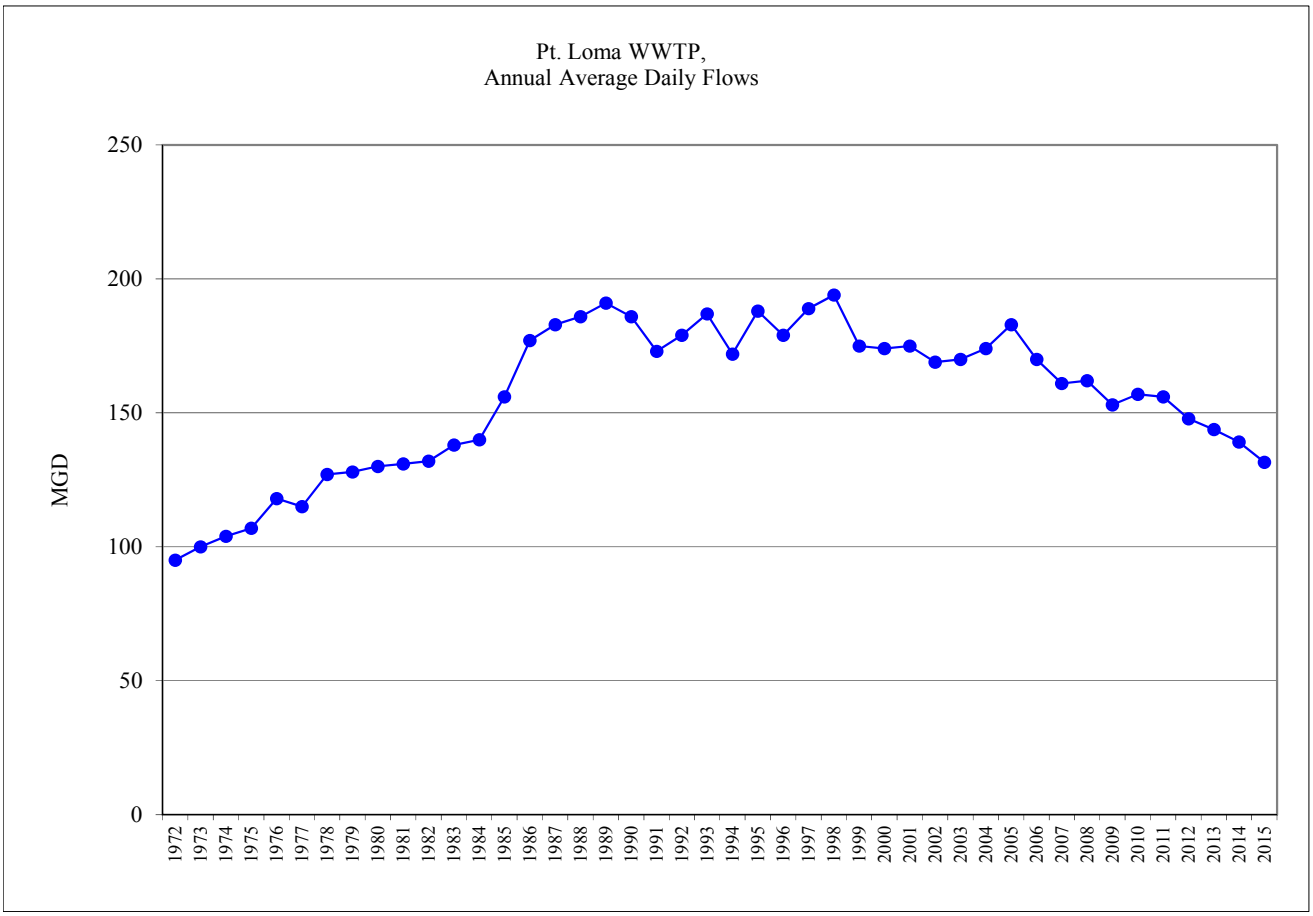
There is an approved O&M Manual for the PLWTP. Plant staff continues to review and update the Manual and Standard Operating Procedures (SOP's) as necessary to keep current with changes in equipment, processes, and standards of practice. New procedures are included as needs are identified. For example, 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.

Correlation of Results to Plant Conditions

Flow

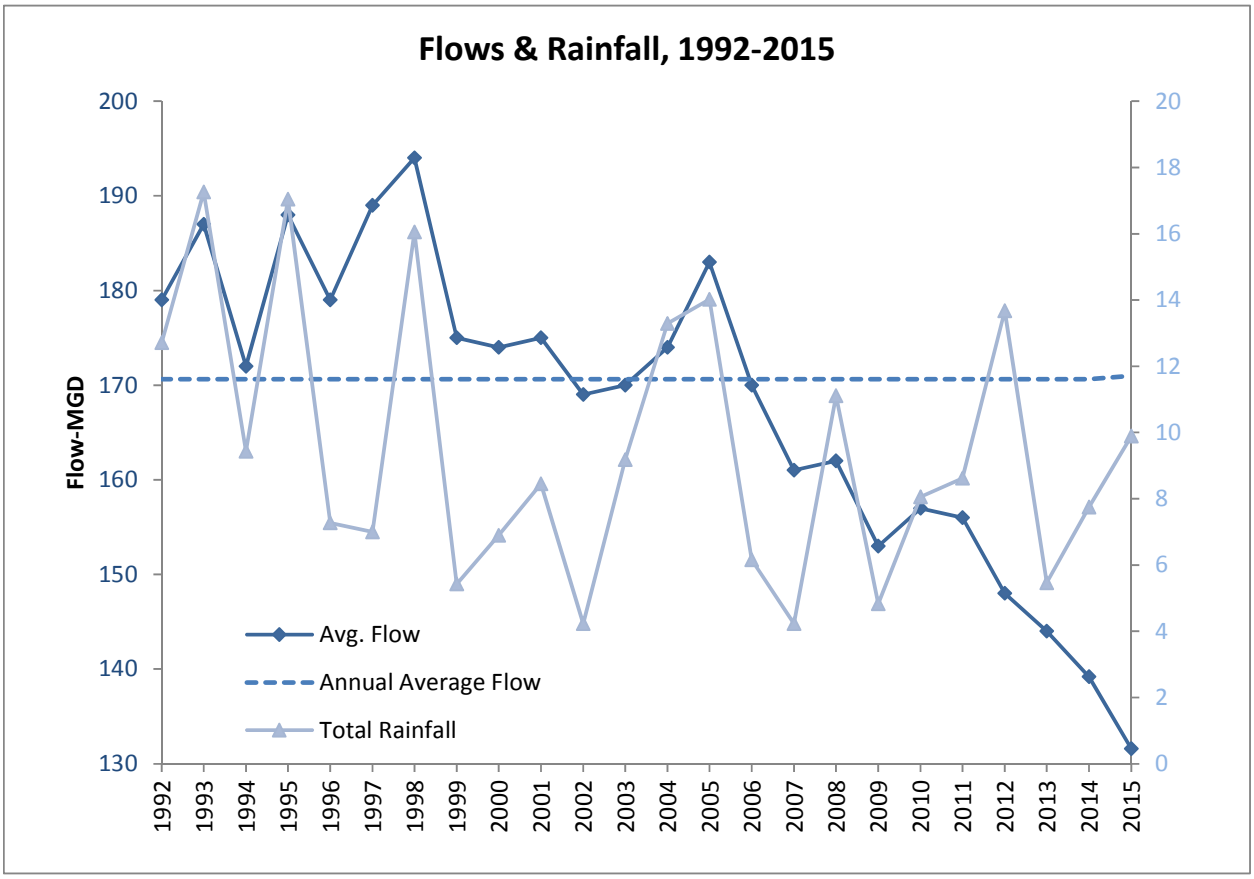
The 2015 daily average influent flow to the Point Loma WWTP was 131.6 MGD.



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.

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.

Annual Totals						
Year	SBWRP Influent	SBWRP Discharge to South Bay Outfall	System Return Stream	Net removed from Metro	SBWRP Distributed Recycled Water	NCWRP Reclaimed Water Flow to Distribution System
	(million gals)	(million gals)	(million gals)	(million gals)	(million gals)	(million gals)
2015	2724	1274	479	2,230	956	2022
2014	2,908	1075	586	2,291	1,216	2,428
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



Precipitation:
The total rainfall of 9.89 inches in 2015 was higher than the total rainfall of 7.75 inches in 2014.

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).

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.

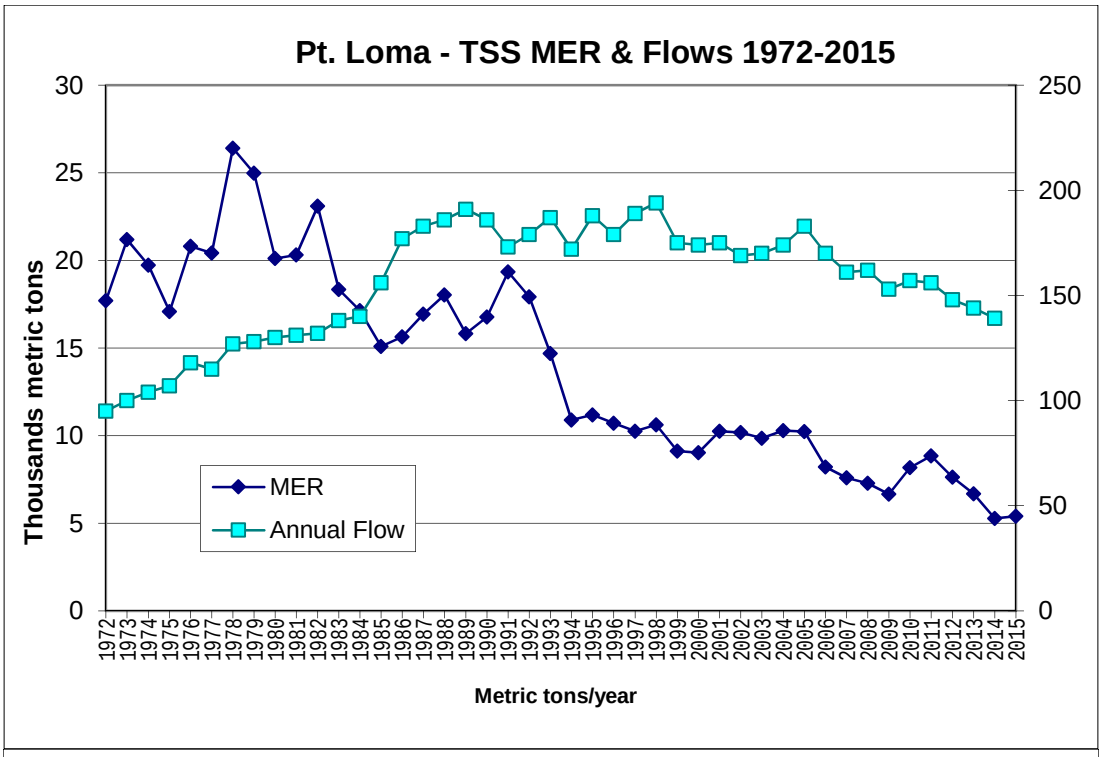
Weather and the various components of water conservation have emerged as more significant factors affecting flows, supplanting the historical role that population growth played.

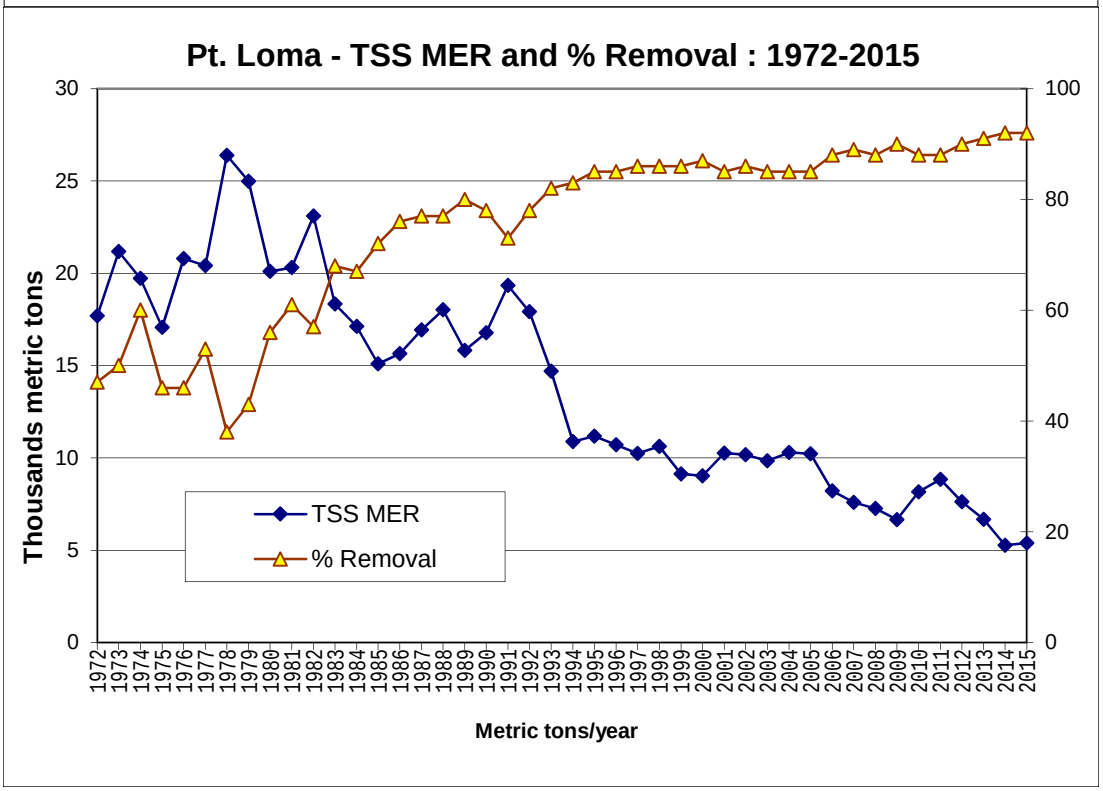
Historical Average Daily Flows

YEAR	FLOW (MGD)	YEAR	FLOW (MGD)
1972	95	1994	172
1973	100	1995	188
1974	104	1996	179
1975	107	1997	189
1976	118	1998	194
1977	115	1999	175
1978	127	2000	174
1979	128	2001	175
1980	130	2002	169
1981	131	2003	170
1982	132	2004	174
1983	138	2005	183
1984	140	2006	170
1985	156	2007	161
1986	177	2008	162
1987	183	2009	153
1988	186	2010	157
1989	191	2011	156
1990	186	2012	148
1991	173	2013	144
1992	179	2014	139
1993	187	2015	132

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

Year 2015 data showed that influent TSS concentrations ranged from 276 to 562 mg/L and averaged 361 mg/L.





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.

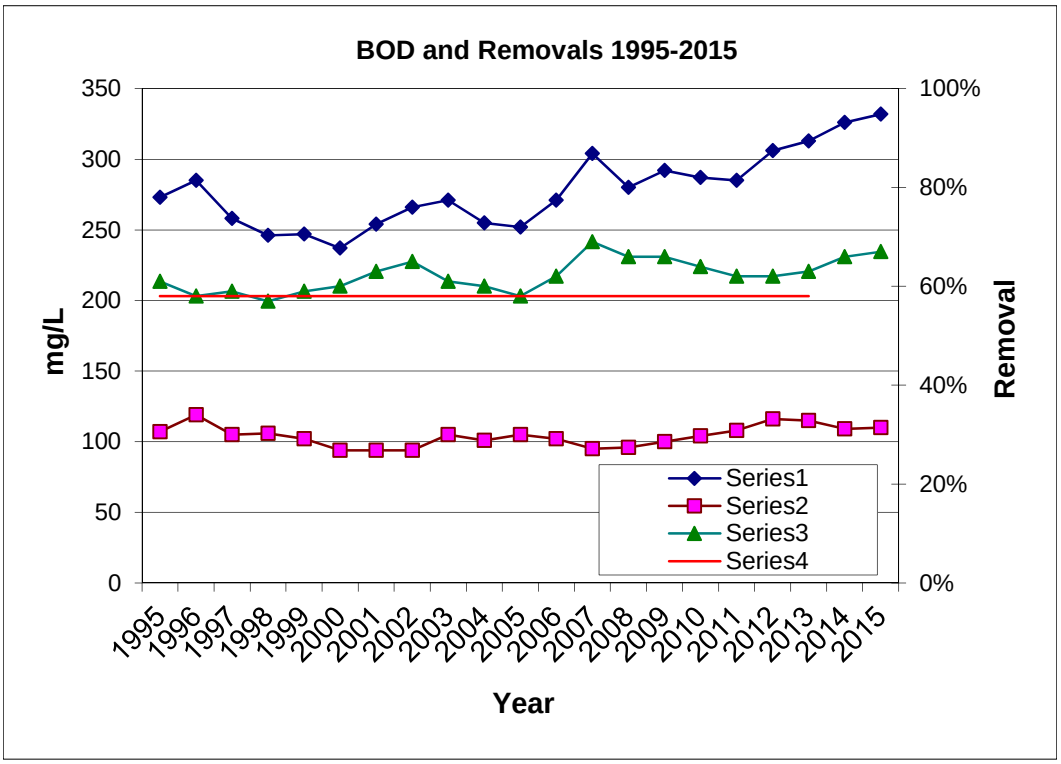
Effluent TSS concentrations also correlate similarly to the MER pattern.

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
2014	139.2	7.75	348	27	92	31,830	5,270
2015	131.6	9.89	361	30	92	32,570	5,392

(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
1995 - Total	273	107	61%
Adjusted Total*	270	107	60%
Soluble	99	79	20%
1996 - Total	285	119	58%
Adjusted Total*	283	119	58%
Soluble	104	89	14%
1997 - Total	258	105	59%
Adjusted Total*	256	105	59%
Soluble	92	79	14%
1998 - Total	246	106	57%
Adjusted Total*	244	106	57%
Soluble	89	81	9%
1999- Total	247	102	59%
System-wide Total	251	102	59%
Soluble	96	79	18%
2000 - Total	237	94	60%
System-wide Total	248	94	62%
Soluble	84	69	18%
2001 - Total	254	94	63%
System-wide Total	270	94	65%
Soluble	84	58	31%
2002 - Total	266	94	65%
System-wide Total	287	94	67%
Soluble	86	59	31%
2003 - Total	271	105	61%
System-wide Total	292	105	64%
Soluble	86	70	19%
2004 - Total	255	101	60%
System-wide Total	273	101	63%
Soluble	80	70	12%

	Influent	Effluent	% Removal
2005 - Total	252	105	58%
System-wide Total	269	105	61%
Soluble	88	75	15%
2006 - Total	271	102	62%
System-wide Total	295	102	65%
Soluble	87	73	16%
2007 - Total	304	95	69%
System-wide Total	317	95	70%
Soluble	85	69	19%
2008 - Total	280	96	66%
System-wide Total	296	96	68%
Soluble	85	69	19%
2009 - Total	292	100	66%
System-wide Total	310	100	68%
Soluble	76	68	11%
2010 - Total	287	104	64%
System-wide Total	312	104	66%
Soluble	72	70	3%
2011 - Total	285	108	62%
System-wide Total	312	108	66%
Soluble	77	73	5%
2012- Total	306	116	62%
System-wide Total	328	116	65%
Soluble	84	79	3%
2013- Total	313	115	63%
System-wide Total	328	115	65%
Soluble	84	81	4%
2014- Total	326	109	66%
System-wide Total	352	109	69%
Soluble	92	82	10%
2015- Total	332	110	67%
System-wide Total	367	110	70%
Soluble	96	83	14%

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. As a result of an analysis of compliance in the ocean, in August of 2014, the dose rate was reduced to 15 ppm and in October 2014 it was reduced to 6 ppm. It has remained at 6 ppm since October 2014.

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 2015 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. A new monitoring technology was purchased to be installed and tested in 2016. If this unit is found to be successful the result of this new technology may allow the implementation of continuous chlorine residual monitoring at Point Loma. Laboratory testing according to the previously approved protocols is being continued.

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

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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

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)**	**2015 Mass Emissions** (mt/yr)	**2015 Concentration**	**Units**
Flow (MGD)			**131.6**	MGD
Total Suspended Solids	13,598	5,466	30	mg/L
BOD	-	20,043	110	mg/L
Arsenic	0.88	0.17	0.95	ug/L
Cadmium	1.4	0.01	0.03	ug/L
Chromium	14.2	0.27	1.5	ug/L
Copper	26	2.44	13.4	ug/L
Lead	14.2	0.00	0.0	ug/L
Mercury	0.19	0.002	0.0089	ug/L
Nickel	11.3	1.05	5.8	ug/L
Selenium	0.44	0.22	1.19	ug/L
Silver	2.8	0.00	0.00	ug/L
Zinc	18.3	4.06	22.3	ug/L
Cyanide	1.57	0.07	0.000	mg/L
Residual Chlorine	--	0.00	0	mg/L
Ammonia	8018	6,888	37.8	mg/L
Non-Chor. Phenols	2.57	4.19	23	ug/L
Chlorinated Phenols	1.73	0.00	0.0	ug/L
Endosulfan	0.006	0.0000	0	ng/L
Endrin	0.008	0.00	0	ng/L
hexachlorocyclohexanes *(HCH) * (all as Lindane, the gamma isomer)	0.025	0.0000	0	ng/L
Acrolein	17.6	0.00	0	ug/L
Antimony	56.6	0.00	0.0	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	0.0	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	1.08	5.9	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	0.00	0	ug/L
Fluoranthene	0.62	0.00	0	ug/L
Hexachlorocyclopentadiene	B	0.00	0	ug/L
Nitrobenzene	2.07	0.00	0	ug/L
Thallium	36.8	0.00	0.0	ug/L
Toluene	3.31	0.19	0.6	ug/L
1,1,2,2-tetrachloroethane	1.95	0.00	0	ug/L

Constituent/Property	Benchmarks (mt/yr)	2015 Mass Emissions (mt/yr)	2015 Concentration	Units
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	0.53	2.9	ug/L
DDT	0.043	0.00	0	ng/L
1,4-dichlorobenzene	1.25	0.12	0	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	0.05	0.3	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	0.46	2.5	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

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

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.

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
		820			1,600	2,500

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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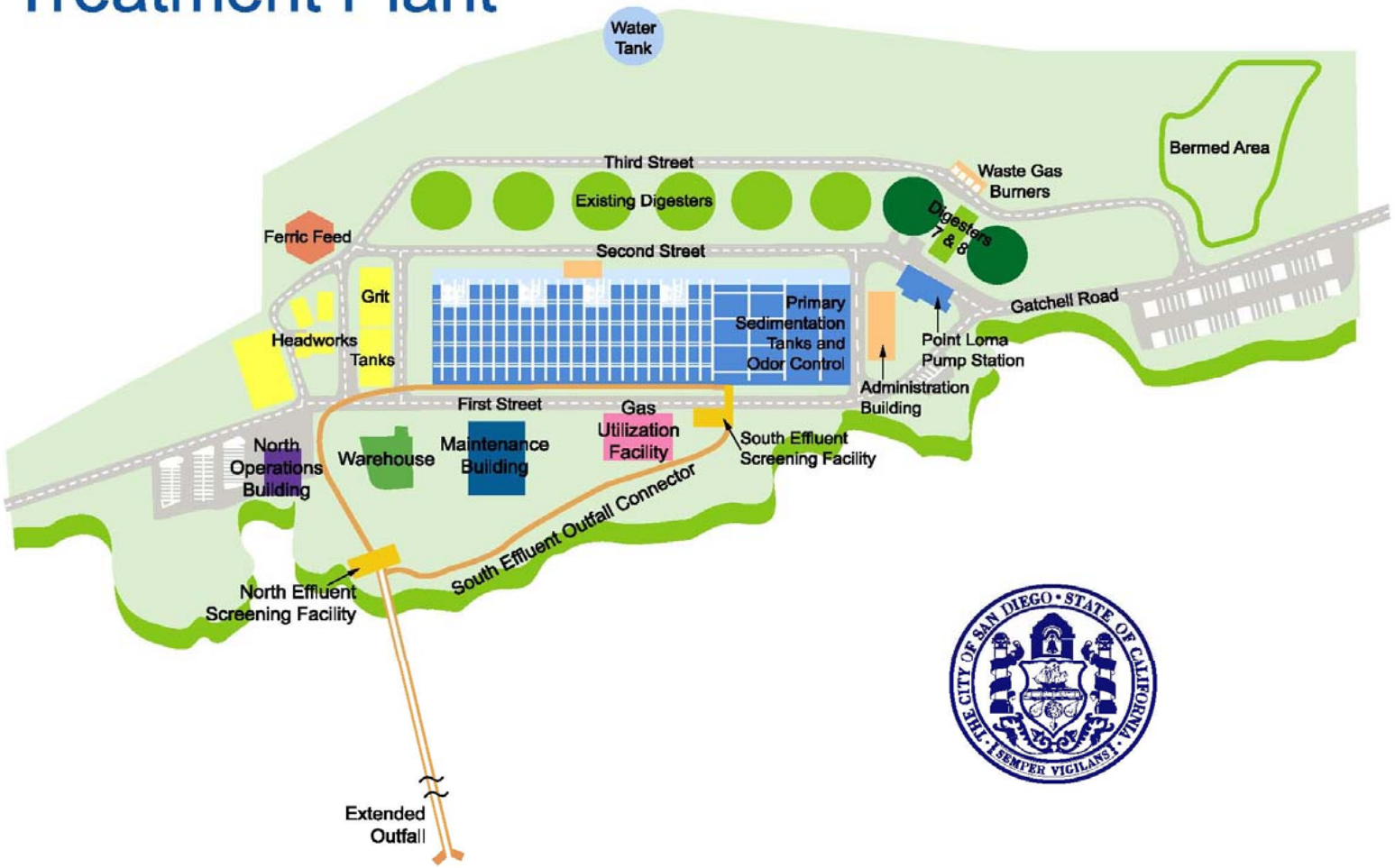
Point Loma Wastewater Treatment Plant



POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL

Annual 2015

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 -2015	138.8	328	379690	107	123862	67.4
FEBRUARY -2015	134.7	324	363981	108	121327	66.7
MARCH -2015	137.0	328	374766	112	127969	65.9
APRIL -2015	128.1	331	353625	107	114314	67.7
MAY -2015	130.6	347	377954	107	116545	69.2
JUNE -2015	126.6	342	361099	105	110864	69.3
JULY -2015	130.8	324	353443	109	118905	66.4
AUGUST -2015	127.4	335	355943	109	115814	67.5
SEPTEMBER-2015	129.7	328	354797	108	116823	67.1
OCTOBER -2015	131.0	335	366001	124	135475	63.0
NOVEMBER -2015	130.5	338	367869	116	126251	65.7
DECEMBER -2015	134.0	324	362089	102	113991	68.5
Average	131.6	332	364271	110	120178	67.0

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 -2015	138.8	345	300	87.0	399369	29	23	79.3	33570
FEBRUARY -2015	134.7	353	312	88.4	396559	25	20	80.0	28085
MARCH -2015	137.0	360	311	86.4	411329	29	23	79.3	33135
APRIL -2015	128.1	376	330	87.8	401701	26	22	84.6	27777
MAY -2015	130.6	377	327	86.7	410630	30	24	80.0	32676
JUNE -2015	126.6	380	334	87.9	401221	27	22	81.5	28508
JULY -2015	130.8	372	323	86.8	405804	29	24	82.8	31635
AUGUST -2015	127.4	359	310	86.4	381443	28	23	82.1	29750
SEPTEMBER-2015	129.7	358	313	87.4	387248	30	25	83.3	32451
OCTOBER -2015	131.0	348	302	86.8	380204	32	27	84.4	34961
NOVEMBER -2015	130.5	352	306	86.9	383106	36	29	80.6	39181
DECEMBER -2015	134.0	348	304	87.4	388911	35	28	80.0	39115
Average	131.6	361	314		395627	30	24		32570

	Percent Removal TSS (%)	Percent Removal VSS (%)
JANUARY -2015	91.6	92.3
FEBRUARY -2015	92.9	93.6
MARCH -2015	91.9	92.6
APRIL -2015	93.1	93.3
MAY -2015	92.0	92.7
JUNE -2015	92.9	93.4
JULY -2015	92.2	92.6
AUGUST -2015	92.2	92.6
SEPTEMBER-2015	91.6	92.0
OCTOBER -2015	90.8	91.1
NOVEMBER -2015	89.8	90.5
DECEMBER -2015	89.9	90.8
Average	91.7	92.3

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

Systemwide BOD Removals

Annual 2015

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.
15-01	379,908	30,652	16,066	4,389	6,659	11,048	124,054	69.9	67.0	107
15-02	364,401	26,449	14,094	4,536	1,387	5,922	121,325	69.5	66.6	108
15-03	374,166	23,006	18,011	3,350	5,084	8,434	128,418	68.4	65.7	112
15-04	353,639	26,052	16,967	3,762	1,195	4,957	114,403	70.8	67.6	107
15-05	377,913	31,562	12,429	3,916	2,104	6,020	115,827	72.1	69.3	107
15-06	361,085	32,636	13,017	4,968	2,123	7,091	110,707	72.4	69.4	105
15-07	351,816	29,010	13,303	5,019	1,192	6,210	118,121	69.5	66.4	109
15-08	355,514	30,487	14,245	4,487	681	5,168	116,229	70.5	67.2	109
15-09	354,413	32,168	15,284	5,096	2,083	7,179	116,844	70.3	66.9	108
15-10	366,107	27,859	15,094	5,762	1,227	6,989	135,117	66.4	63.1	124
15-11	366,249	28,239	14,463	5,701	1,071	6,772	125,518	68.7	65.6	116
15-12	361,608	26,638	16,504	5,893	2,292	8,185	113,695	71.2	68.3	102
avg	363,902	28,730	14,956	4,740	2,258	6,998	120,022	70.0	66.9	109

Systemwide TSS Removals

Annual 2015

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
15-01	399,683	28,709	21,479	10,854	12,107	22,961	33,802	92.0	91.5	29
15-02	397,022	24,501	17,053	12,864	2,627	15,491	28,140	93.3	92.9	25
15-03	410,673	21,022	25,282	9,741	7,827	17,568	33,219	92.4	91.9	29
15-04	401,068	26,355	22,164	10,232	2,224	12,456	28,235	93.5	92.9	26
15-05	410,410	29,012	12,748	5,944	2,357	8,300	32,014	92.7	92.1	29
15-06	401,237	31,922	14,414	10,385	3,174	13,560	28,393	93.4	92.8	27
15-07	404,005	26,581	16,158	10,422	2,875	13,297	32,009	92.6	92.0	29
15-08	380,688	31,500	18,479	10,745	1,642	12,388	29,317	92.9	92.2	28
15-09	387,816	32,055	18,001	13,147	1,699	14,845	31,961	92.2	91.5	30
15-10	379,733	28,101	20,496	17,313	2,357	19,670	35,041	91.4	90.7	32
15-11	382,661	26,052	19,043	13,487	1,754	15,241	39,106	90.5	89.7	36
15-12	387,678	26,788	20,659	13,766	3,949	17,714	39,569	90.5	89.8	35
avg	395,223	27,717	18,831	11,575	3,716	15,291	32,567	92.3	91.7	30

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

Annual 2015

Effluent to Ocean Outfall
(PLE)

	pH	Settleable Solids (ml/L)	Biochemical Oxygen Demand (mg/L)	Hexane Extractable Material (mg/L)	Temperature (C)	Floating Particulates (mg/L)	Turbidity (NTU)
JANUARY -2015	7.25	0.2	107	10.3	24.4	ND	33
FEBRUARY -2015	7.28	<0.1	108	9.1	24.4	ND	32
MARCH -2015	7.25	0.1	112	9.8	24.6	ND	36
APRIL -2015	7.30	0.1	107	10.2	25.7	ND	34
MAY -2015	7.27	0.2	107	9.7	26.1	ND	37
JUNE -2015	7.23	0.2	105	10.5	27.0	ND	37
JULY -2015	7.28	0.2	109	11.0	27.7	<1.40	40
AUGUST -2015	7.30	0.2	109	10.7	28.9	ND	39
SEPTEMBER-2015	7.30	0.2	108	9.8	29.3	ND	37
OCTOBER -2015	7.24	0.2	124	14.3	28.9	ND	40
NOVEMBER -2015	7.23	0.3	116	15.6	27.1	ND	39
DECEMBER -2015	7.27	0.2	102	12.6	25.0	ND	35
Average	7.27	0.2	110	11.1	27.2	0.00	37

Influent to Plant
(PLR)

	pH	Settleable Solids (ml/L)	Biochemical Oxygen Demand (mg/L)	Hexane Extractable Material (mg/L)	Temperature (C)	Floating Particulates (mg/L)	Turbidity (NTU)
JANUARY -2015	7.39	20.2	328	50.2	23.9	1.41	141
FEBRUARY -2015	7.41	19.4	324	51.6	24.0	<1.40	143
MARCH -2015	7.36	17.3	328	49.1	23.8	<1.40	138
APRIL -2015	7.42	19.6	331	53.0	25.3	<1.40	135
MAY -2015	7.38	18.7	347	49.0	25.5	<1.40	154
JUNE -2015	7.31	19.5	342	54.1	26.3	<1.40	135
JULY -2015	7.37	18.6	324	50.5	27.3	<1.40	169
AUGUST -2015	7.38	18.6	335	52.5	28.4	<1.40	176
SEPTEMBER-2015	7.37	17.6	328	50.2	28.7	<1.40	133
OCTOBER -2015	7.34	15.0	335	51.4	28.5	<1.40	131
NOVEMBER -2015	7.30	17.2	338	54.3	26.8	<4.20	182
DECEMBER -2015	7.33	16.7	324	56.7	24.8	2.04	162
Average	7.36	18.2	332	51.9	26.1	0.3	150

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

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

2015 Annual

Analyte:	Antimony	Antimony	Arsenic	Arsenic	Beryllium	Beryllium	Cadmium	Cadmium
MDL	2.44	2.44	.06	.06	.05	.05	.26	.26
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 -2015	<2.44	<2.44	1.06	0.82	ND	ND	0.32	ND
FEBRUARY -2015	<2.44	ND	1.07	0.66	ND	ND	0.35	<0.26
MARCH -2015	3.26	<2.44	1.22	0.80	ND	ND	0.49	<0.26
APRIL -2015	4.03	<2.44	1.41	0.84	ND	ND	0.46	<0.26
MAY -2015	ND	ND	0.79	0.96	ND	ND	<0.26	ND
JUNE -2015	<2.44	ND	1.08	1.05	ND	ND	ND	ND
JULY -2015	ND	ND	1.08	1.07	ND	ND	ND	ND
AUGUST -2015	ND	ND	1.25	1.07	ND	ND	ND	ND
SEPTEMBER-2015	<2.44	ND	1.38	1.15	ND	ND	<0.26	<0.26
OCTOBER -2015	3.00	<2.44	1.45	1.12	ND	ND	<0.26	ND
NOVEMBER -2015	3.20	<2.44	1.40	0.99	ND	ND	0.46	0.35
DECEMBER -2015	4.25	<2.44	1.21	0.81	ND	ND	ND	ND
AVERAGE	1.48	0.00	1.20	0.95	ND	ND	0.17	0.03

Analyte:	Chromium	Chromium	Copper	Copper	Iron	Iron	Lead	Lead
MDL	.54	.54	2.16	2.16	15.6	15.6	1.68	1.68
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 -2015	3.89	0.64	94.8	12.7	8670	2890	2.40	ND
FEBRUARY -2015	4.86	1.07	106.0	11.3	8820	2740	2.21	<1.68
MARCH -2015	5.50	1.35	119.0	16.0	9470	2800	2.84	ND
APRIL -2015	5.74	1.28	119.0	12.4	10400	2460	2.43	ND
MAY -2015	2.93	1.40	<2.16	9.4	7400	2460	<1.68	<1.68
JUNE -2015	5.32	1.61	125.0	13.4	8960	2260	3.62	ND
JULY -2015	4.89	1.68	99.8	13.5	8310	2240	3.12	<1.68
AUGUST -2015	8.00	0.75	165.0	13.0	10100	2230	ND	ND
SEPTEMBER-2015	6.15	1.55	103.0	11.6	8640	2140	3.00	<1.68
OCTOBER -2015	6.28	1.77	114.0	18.6	10300	2550	4.40	<1.68
NOVEMBER -2015	6.08	2.24	125.0	14.1	9780	2730	3.20	ND
DECEMBER -2015	5.65	2.35	106.0	15.3	8860	2890	2.75	<1.68
AVERAGE	5.44	1.47	106.4	13.4	9143	2533	2.50	0.00

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

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

2015 Annual

Analyte:	Nickel	Nickel	Selenium	Selenium	Silver	Silver	Thallium	Thallium
MDL	.53	.53	.08	.08	.73	.73	3.12	3.12
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 -2015	6.76	4.12	1.11	1.20	<0.73	ND	ND	ND
FEBRUARY -2015	6.07	3.46	1.73	1.21	<0.73	ND	ND	<3.12
MARCH -2015	7.65	3.77	1.86	1.22	0.99	ND	ND	ND
APRIL -2015	7.71	4.31	2.00	1.36	<0.73	ND	ND	ND
MAY -2015	6.44	4.80	1.27	1.09	ND	ND	ND	ND
JUNE -2015	7.26	3.79	1.32	1.03	1.23	ND	ND	ND
JULY -2015	7.21	4.19	1.42	1.08	<0.73	ND	ND	ND
AUGUST -2015	17.80	12.50	1.73	1.32	ND	ND	ND	ND
SEPTEMBER-2015	12.10	8.21	1.41	1.06	<0.73	<0.73	ND	ND
OCTOBER -2015	13.10	8.75	2.07	1.35	<0.73	<0.73	ND	ND
NOVEMBER -2015	9.06	4.80	1.67	1.14	<0.73	ND	ND	<3.12
DECEMBER -2015	9.15	6.56	1.93	1.27	<0.73	<0.73	ND	ND
AVERAGE	9.19	5.77	1.63	1.19	0.19	0.00	ND	0.00

Analyte:	Zinc	Zinc	Mercury	Mercury
MDL	4.19	4.19	.5	.5
Units	UG/L	UG/L	NG/L	NG/L
Source:	PLR	PLE	PLR	PLE
JANUARY -2015	147	18.3	30.4	1.8
FEBRUARY -2015	153	18.0	109.6	5.9
MARCH -2015	176	22.2	82.1	6.5
APRIL -2015	181	26.4	86.3	6.5
MAY -2015	121	19.3	132.9	5.9
JUNE -2015	174	15.0	92.5	18.5
JULY -2015	152	17.4	81.0	9.5
AUGUST -2015	181	18.8	102.8	10.3
SEPTEMBER-2015	169	18.8	252.8	8.0
OCTOBER -2015	184	26.5	135.6	7.9
NOVEMBER -2015	180	26.6	133.2	18.5
DECEMBER -2015	158	36.5	104.0	7.0
AVERAGE	165	22.3	112.0	8.85

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

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Ammonia-Nitrogen and Total Cyanides

Annual 2015

Analte:	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 -2015	35.2	36.5	0.0020	0.0020
FEBRUARY -2015	36.8	37.5	0.0023	0.0023
MARCH -2015	36.0	35.9	<0.0020	<0.0020
APRIL -2015	38.7	39.2	0.0020	<0.0020
MAY -2015	38.9	38.6	0.0025	<0.0020
JUNE -2015	38.7	37.7	<0.0020	<0.0020
JULY -2015	37.0	37.3	<0.0020	<0.0020
AUGUST -2015	38.8	38.3	<0.0020	<0.0020
SEPTEMBER-2015	36.1	36.1	0.0023	<0.0020
OCTOBER -2015	36.3	36.2	<0.0020	<0.0020
NOVEMBER -2015	40.2	40.0	<0.0020	<0.0020
DECEMBER -2015	40.4	40.1	<0.0020	<0.0020
Average:	37.8	37.8	0.0009	0.0004

Analyte: Chlorine Residual, Total	
MDL/Units:	.03 MG/L
Source:	PLE
JANUARY -2015	ND
FEBRUARY -2015	ND
MARCH -2015	ND
APRIL -2015	ND
MAY -2015	ND
JUNE -2015	ND
JULY -2015	ND
AUGUST -2015	ND
SEPTEMBER-2015	ND
OCTOBER -2015	ND
NOVEMBER -2015	ND
DECEMBER -2015	ND
Average:	ND

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

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Radioactivity

2015 Annual

Analyzed by: TestAmerica Labs Inc.

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLE	JANUARY -2015	8.0±9.7	32.3±8.6
PLE	FEBRUARY -2015	0.3±8.9	41.6±13.0
PLE	MARCH -2015	4.9±8.5	23.3±6.1
PLE	APRIL -2015	2.1±12.0	32.3±8.8
PLE	MAY -2015	-1.6±7.1	38.5±7.8
PLE	JUNE -2015	1.8±5.8	27.2±5.7
PLE	JULY -2015	4.2±8.2	40.2±7.7
PLE	AUGUST -2015	-1.1±8.7	29.8±7.3
PLE	SEPTEMBER-2015	4.3±8.2	31.4±8.2
PLE	OCTOBER -2015	5.8±8.3	37.6±8.7
PLE	NOVEMBER -2015	1.3±6.9	29.2±7.3
PLE	DECEMBER -2015	0.4±6.4	33.6±7.8
AVERAGE		2.5±8.2	33.1±8.1

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLR	JANUARY -2015	4.7±11.0	27.4±8.4
PLR	FEBRUARY -2015	2.7±9.4	34.9±11.5
PLR	MARCH -2015	1.1±8.8	25.1±7.0
PLR	APRIL -2015	0.5±9.3	37.2±9.9
PLR	MAY -2015	0.4±6.3	35.1±7.3
PLR	JUNE -2015	4.9±7.5	30.2±6.3
PLR	JULY -2015	1.4±7.2	37.4±7.5
PLR	AUGUST -2015	3.7±7.0	26.8±6.8
PLR	SEPTEMBER-2015	10.2±10.0	18.9±9.2
PLR	OCTOBER -2015	1.4±6.6	33.2±7.0
PLR	NOVEMBER -2015	3.5±6.2	30.2±7.3
PLR	DECEMBER -2015	0.2±6.9	37.0±8.3
AVERAGE		2.9±8.0	31.1±8.0

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

2015 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	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene	0	NG/L	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Gamma Chlordene	0	NG/L	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	4.3	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	2	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
DDT and derivatives	4	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlordane + related cmpds.	2	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	2000	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	7	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	9.4	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2000	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

From 01-JAN-2015 To 31-DEC-2015

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
Aldrin	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43	4
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene	0	NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene	0	NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	4.3	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	2	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
DDT and derivatives	4	NG/L	0	0	0	0	0	0	0	0	0	0	0	43	4
Chlordane + related cmpds.	2	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	2000	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	7	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	9.4	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2000	NG/L	0	0	0	0	0	0	0	0	0	0	0	43	4

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

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT- ANNUAL SUMMARY
Organophosphorus Pesticides

2015 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			04-JAN-2015	03-FEB-2015	11-MAR-2015	05-APR-2015	05-MAY-2015	10-JUN-2015
Analyte	MDL	Units	P752883	P755927	P771987	P776839	P778631	P788333
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			06-JUL-2015	04-AUG-2015	09-SEP-2015	08-OCT-2015	09-NOV-2015	07-DEC-2015
Analyte	MDL	Units	P793369	P795056	P805593	P812596	P816795	P823254
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

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

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT- ANNUAL SUMMARY
Organophosphorus Pesticides

2015 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			04-JAN-2015	03-FEB-2015	11-MAR-2015	05-APR-2015	05-MAY-2015	10-JUN-2015
Analyte	MDL	Units	P752886	P755933	P771990	P776842	P778637	P788336
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			06-JUL-2015	04-AUG-2015	09-SEP-2015	08-OCT-2015	09-NOV-2015	07-DEC-2015
Analyte	MDL	Units	P793372	P795062	P805596	P812595	P816798	P823257
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

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

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

2015 Annual

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

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

From 01-JAN-2015 to 31-DEC-2015

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	<1.3	ND	0.0
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	20.4	21.2	20.4	23.6	27.7	35.1	17.2	21.0	18.9	19.4	24.8	25.7	23.0
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	20.4	21.2	20.4	23.6	27.7	35.1	17.2	21.0	18.9	19.4	24.8	25.7	23.0
Phenols	2.16	UG/L	20.4	21.2	20.4	23.6	27.7	35.1	17.2	21.0	18.9	19.4	24.8	25.7	23.0
Additional Analytes Determined;															
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	51.0	56.5	53.7	53.5	55.9	65.9	34.9	38.3	36.7	37.3	39.9	44.0	47.3
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	25.3	26.1	26.5	33.9	33.4	46.3	31.6	33.4	30.9	34.1	40.5	49.1	34.3
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	25.3	26.1	26.5	33.9	33.4	46.3	31.6	33.4	30.9	34.1	40.5	49.1	34.3
Phenols	2.16	UG/L	25.3	26.1	26.5	33.9	33.4	46.3	31.6	33.4	30.9	34.1	40.5	49.1	34.3
Additional Analytes Determined;															
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	59.2	67.2	69.0	71.5	62.7	85.5	60.8	59.4	58.2	63.5	64.2	84.7	67.2
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

Annual 2015

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	4.0	4.2	<3.1	3.7	<3.1	6.3	19.1	4.4	8.6*	<3.1	18.2	4.6	5.9
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	4.0	4.2	0.0	3.7	0.0	6.3	19.1	4.4	0.0	0.0	18.2	4.6	5.4
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

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

*= The method blank acceptance criteria was not met as analyte was present in the blank. Values are not used in average.

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

2015 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	DNQ4.4	ND	ND	ND	0.0
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	12.10	10.80	10.90	9.55	19.30	13.50	10.20	17.70	12.80	11.90	15.90	10.30	12.90
Diethyl phthalate	3.05	UG/L	3.6	13.4	14.2	3.9	4.0	3.2	7.1	4.6	8.7*	5.1	4.6	ND	5.8
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	15.7	24.2	25.1	13.5	23.3	16.7	17.3	22.3	12.8	17.0	20.5	10.3	18.6
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

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.

*= The method blank acceptance criteria was not met as analyte was present in the blank. Values are not used in average.

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Purgeables

Annual 2015

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
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	2.8	3.6	DNQ0.4	3.3	2.0	2.9	4.8	4.1	2.8	3.5	2.7	2.9	2.9
Chloromethane	.5	UG/L	2.3	3.4	ND	2.5	ND	2.4	8.0	5.6	DNQ1.1	3.3	2.7	DNQ2.0	2.5
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	DNQ1.0	DNQ0.3	DNQ0.4	DNQ0.4	DNQ0.3	ND	ND	ND	<0.3	ND	ND
Methylene chloride	.3	UG/L	ND	2.6	DNQ1	1.2	ND	DNQ1.6	DNQ2	DNQ1.4	DNQ1.1	DNQ0.44*	DNQ1.9	DNQ1	0.3
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	1.2	ND	ND	ND	ND	ND	ND	ND	ND	0.1
Toluene	.4	UG/L	ND	1.7	DNQ1.0	1.8	DNQ0.9	1.2	2.2	DNQ0.6	DNQ0.7	DNQ0.4	DNQ1.3	DNQ0.7	0.6
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	2.3	3.4	0.0	2.5	0.0	2.4	8.0	5.6	0.0	3.3	2.7	0.0	2.5
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	5.1	9.6	0.0	7.0	2.0	5.3	12.8	9.7	2.8	6.8	5.4	2.9	5.8
Purgeable Compounds	1.3	UG/L	5.1	11.3	0.0	10.0	2.0	6.5	15.0	9.7	2.8	6.8	5.4	2.9	6.5
Additional Analytes Determined;															
Acetone	4.5	UG/L	751	1080	604	711	456	415	825	478	1110	616	839	1180	755
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	<6.3	ND	DNQ10.	<6.3	DNQ9.2	14.2	DNQ7.9	11.5	DNQ6.5	ND	DNQ10.	ND	5.8
Carbon disulfide	.6	UG/L	3.2	DNQ2.3	DNQ1.0	3.3	DNQ2.5	3.5	4.3	2.7	2.8	2.3	2.9	2.5	2.8
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	DNQ0.7	DNQ0.4	ND	ND	ND	ND	ND	ND	0.1
Styrene	.3	UG/L	ND	ND	DNQ0.3	ND	DNQ0.3	ND	DNQ0.3	ND	ND	ND	ND	ND	0.1
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	DNQ2.0	ND	DNQ1.5	1.1	DNQ0.6	ND	ND	ND	ND	ND	0.4
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

*= The RSD of the analyte response factor is 59.5%, which is abobe 15% calibration criteria; therefore, the range result is not included in the average calculation.
^= The RSD of the analyte response factor is 59.5%, which is abobe 15% calibration criteria; therefore, the range result is not included in the average calculation.
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

From 01-JAN-2015 to 31-DEC-2015

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	1.4	2.0	DNQ1.0	2.2	1.8	2.2	2.1	DNQ1.8	DNQ1.7	DNQ1.5	DNQ1.6	2.1	1.8
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	DNQ0.5	0.0
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	DNQ1.0	ND	DNQ0.5	DNQ0.4	DNQ0.5	ND	ND	ND	ND	DNQ0.7	0.0
Methylene chloride	.3	UG/L	ND	2.2	DNQ1.0	1.9	1.2	DNQ1.4	DNQ1.3	DNQ1.1	DNQ1.0	DNQ0.4*	2.3	DNQ1.0	0.6
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	ND	DNQ0.5	DNQ1.0	DNQ0.8	DNQ0.5	DNQ1.0	DNQ0.9	DNQ0.5	DNQ0.4	ND	DNQ0.6	DNQ0.6	0.0
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	1.4	4.2	0.0	4.1	3.0	2.2	2.1	0.0	0.0	0.0	2.3	2.1	2.4
Purgeable Compounds	1.3	UG/L	1.4	4.2	0.0	4.1	3.0	2.2	2.1	0.0	0.0	0.0	2.3	2.1	2.4
Acetone	4.5	UG/L	1300	883	489	815	677	249	906	622	733	957	351	1280	772
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	ND	ND	DNQ10.	ND	13.2	DNQ6.6	DNQ9.3	DNQ6.4	DNQ6.9	ND	ND	DNQ7.7	5.0
Carbon disulfide	.6	UG/L	2.4	DNQ1.6	DNQ1.0	2.5	DNQ2.6	2.8	5.0	2.8	2.5	2.0	2.4	1.8	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DNQ0.5	ND	0.0
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	DNQ0.4	DNQ0.7	ND	ND	ND	ND	ND	DNQ0.6	0.1
Styrene	.3	UG/L	ND	DNQ0.6	DNQ0.4	ND	DNQ0.5	DNQ0.3	ND	ND	DNQ0.4	ND	ND	DNQ0.6	0.2
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	DNQ2.0	ND	DNQ1.0	1.0	DNQ0.8	ND	ND	ND	ND	DNQ2.0	0.6
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

*= The RSD of the analyte response factor is 59.5%, which is abobe 15% calibration criteria; therefore, the range result is not included in the average calculation.
^= The RSD of the analyte response factor is 59.5%, which is abobe 15% calibration criteria; therefore, the range result is not included in the average calculation.
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
SLUDGE PROJECT - ANNUAL SUMMARY
Dioxin and Furan Analysis

Annual 2015
Performed by: Frontier Labs

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE*	PLE*
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	P753263	P755927	P770076	P775556	P778631	P786868	P792470	P795056
2,3,7,8-tetra CDD	.7	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	DNQ0.75	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.83	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.20	DNQ0.64
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	DNQ2.24	DNQ3.33	DNQ4.59	DNQ3.16	DNQ2.18	DNQ2.24	DNQ2.4	DNQ1.6
octa CDD	1.4	PG/L	DNQ17.0	DNQ19.0	DNQ44.0	DNQ23.0	DNQ14.0	DNQ14.0	DNQ16.0	DNQ12.0
2,3,7,8-tetra CDF	.46	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.34	ND
1,2,3,7,8-penta CDF	.44	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.10	ND
2,3,4,7,8-penta CDF	.48	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.89	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.00	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.96	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.20	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.84	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.90	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND	ND	ND	DNQ5.50	DNQ2.80

Source			PLE*	PLE*	PLE
Month			SEP	NOV	DEC
Analyte	MDL	Units	P803623		P827984
2,3,7,8-tetra CDD	.7	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	.46	PG/L	ND	DNQ0.50	ND
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	DNQ2.0	DNQ3.17	ND
octa CDD	1.4	PG/L	DNQ26.0	DNQ23.0	DNQ12.3
2,3,7,8-tetra CDF	.46	PG/L	ND	ND	ND
1,2,3,7,8-penta CDF	.44	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.48	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	ND	DNQ0.230	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ0.303	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	DNQ0.59	DNQ0.468	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	DNQ0.39	DNQ0.465	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	DNQ1.30	DNQ0.865	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	ND	DNQ0.463	ND
octa CDF	.738	PG/L	DNQ3.30	DNQ0.910	ND

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Dioxin and Furan Analysis

Annual 2015
Performed by: Frontier Labs

Source				PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE* TCDD	PLE* TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P753263	P755927	P770076	P775556	P778631	P786868	P792470	P795056
2,3,7,8-tetra CDD	.7	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	DNQ0.075	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.083	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.120	DNQ0.064
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	0.010	DNQ0.022	DNQ0.033	DNQ0.046	DNQ0.032	DNQ0.022	DNQ0.022	DNQ0.024	DNQ0.016
octa CDD	1.4	PG/L	0.001	DNQ0.017	DNQ0.019	DNQ0.044	DNQ0.023	DNQ0.014	DNQ0.014	DNQ0.016	DNQ0.012
2,3,7,8-tetra CDF	.46	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.034	ND
1,2,3,7,8-penta CDF	.44	PG/L	0.050	ND	ND	ND	ND	ND	ND	DNQ0.055	ND
2,3,4,7,8-penta CDF	.48	PG/L	0.500	ND	ND	ND	ND	ND	ND	DNQ0.445	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.100	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.096	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.120	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.084	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	0.010	ND	ND	ND	ND	ND	ND	DNQ0.019	ND
1,2,3,4,7,8,9-hepta CDF	1.7	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	DNQ0.006	DNQ0.003

Source				PLE* TCDD	PLE* TCDD	PLE TCDD
Month				SEP	NOV	DEC
Analyte	MDL	Units	Equiv	P803623		P827984
2,3,7,8-tetra CDD	.7	PG/L	1.000	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	PG/L	0.500	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	0.100	ND	DNQ0.050	ND
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	0.010	DNQ0.020	DNQ0.032	ND
octa CDD	1.4	PG/L	0.001	DNQ0.026	DNQ0.023	DNQ0.012
2,3,7,8-tetra CDF	.46	PG/L	0.100	ND	ND	ND
1,2,3,7,8-penta CDF	.44	PG/L	0.050	ND	ND	ND
2,3,4,7,8-penta CDF	.48	PG/L	0.500	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	0.100	ND	DNQ0.023	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	DNQ0.030	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	DNQ0.059	DNQ0.047	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	DNQ0.039	DNQ0.047	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	0.010	DNQ0.013	DNQ0.009	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	0.010	ND	DNQ0.005	ND
octa CDF	.738	PG/L	0.001	DNQ0.003	DNQ0.001	ND

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Above are permit required CDD/CDF isomers.

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

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

Annual 2015
Performed by: Frontier Labs

Source			PLR	PLR	PLR	PLR	PLR	PLR*	PLR*	PLR*
Month			JAN	MAR	APR	MAY	JUN	JUL	AUG	SEP
Analyte	MDL	Units	P753266	P770079	P775559	P778637	P786871	P792473	P795062	P803626
2,3,7,8-tetra CDD	.98	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	ND	ND	ND	ND	ND	DNQ1.4	DNQ0.80	DNQ2.0
1,2,3,7,8,9-hexa CDD	.68	PG/L	ND	ND	ND	ND	ND	DNQ1.1	ND	DNQ1.7
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	DNQ16.4	27.9	DNQ19.6	DNQ15.6	DNQ16.2	DNQ24.0	DNQ13.0	DNQ12.0
octa CDD	1.4	PG/L	150.0	350.0	200.0	160.0	170.0	260.0	DNQ140.0	100.0
2,3,7,8-tetra CDF	1	PG/L	ND	ND	ND	ND	ND	DNQ1.3	DNQ1.20	ND
1,2,3,7,8-penta CDF	1.2	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	ND	ND	ND	ND	ND	DNQ0.82	DNQ0.69	DNQ1.10
1,2,3,6,7,8-hexa CDF	.52	PG/L	DNQ1.30	ND	DNQ2.33	ND	DNQ2.73	DNQ0.77	DNQ0.50	DNQ0.87
1,2,3,7,8,9-hexa CDF	.48	PG/L	ND	ND	ND	ND	ND	ND	ND	DNQ1.40
2,3,4,6,7,8-hexa CDF	.45	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	DNQ3.33	DNQ7.82	DNQ5.08	DNQ3.53	4.41	DNQ6.70	DNQ2.00	DNQ2.70
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.84	PG/L	DNQ9.07	DNQ15.4	DNQ11.9	DNQ8.81	DNQ10.2	DNQ25.0	DNQ9.80	DNQ7.20

Source			PLR*	PLR*	PLR
Month			OCT	NOV	DEC
Analyte	MDL	Units	P812595		P827987
2,3,7,8-tetra CDD	.98	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.68	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	DNQ2.00	DNQ19.2	DNQ8.60
octa CDD	1.4	PG/L	DNQ16.0	190.0	89.0
2,3,7,8-tetra CDF	1	PG/L	ND	DNQ1.15	ND
1,2,3,7,8-penta CDF	1.2	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	ND	<0.580	ND
1,2,3,6,7,8-hexa CDF	.52	PG/L	ND	<0.520	DNQ1.69
1,2,3,7,8,9-hexa CDF	.48	PG/L	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	ND	<0.450	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	ND	DNQ6.74	DNQ3.0
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	ND	ND	ND
octa CDF	.84	PG/L	DNQ2.70	DNQ13.0	DNQ6.31

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Dioxin and Furan Analysis

Annual 2015

Performed by: Frontier Labs

Source				PLR	PLR	PLR	PLR	PLR	PLR	PLR*	PLR*
				TCDD	TCDD	TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P753266	P755933	P770079	P775559	P778637	P786871	P792473	P795062
2,3,7,8-tetra CDD	.98	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.140	DNQ0.080
1,2,3,7,8,9-hexa CDD	.68	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.110	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	0.010	DNQ0.164	DNQ0.196	0.279	DNQ0.196	DNQ0.156	DNQ0.162	DNQ0.240	DNQ0.130
octa CDD	1.4	PG/L	0.001	0.150	0.180	0.350	0.200	0.160	0.170	0.260	DNQ0.140
2,3,7,8-tetra CDF	1	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.130	DNQ0.120
1,2,3,7,8-penta CDF	1.2	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.082	DNQ0.069
1,2,3,6,7,8-hexa CDF	.52	PG/L	0.100	DNQ0.130	DNQ0.142	ND	DNQ0.233	ND	DNQ0.273	DNQ0.077	DNQ0.050
1,2,3,7,8,9-hexa CDF	.48	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	0.010	DNQ0.033	DNQ0.036	DNQ0.078	DNQ0.051	DNQ0.035	0.044	DNQ0.067	DNQ0.020
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.84	PG/L	0.001	DNQ0.009	DNQ0.008	DNQ0.015	DNQ0.012	DNQ0.009	DNQ0.010	DNQ0.025	DNQ0.010

Source				PLR*	PLR*	PLR*	PLR
				TCDD	TCDD	TCDD	TCDD
Month				SEP	OCT	NOV	DEC
Analyte	MDL	Units	Equiv	P803626	P812595		P827987
2,3,7,8-tetra CDD	.98	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	0.100	DNQ0.200	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.68	PG/L	0.100	DNQ0.170	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	0.010	DNQ0.120	DNQ0.020	DNQ0.192	DNQ0.086
octa CDD	1.4	PG/L	0.001	0.100	DNQ0.016	0.190	0.089
2,3,7,8-tetra CDF	1	PG/L	0.100	ND	ND	DNQ0.115	ND
1,2,3,7,8-penta CDF	1.2	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	0.100	DNQ0.110	ND	DNQ0.039	ND
1,2,3,6,7,8-hexa CDF	.52	PG/L	0.100	DNQ0.087	ND	DNQ0.050	DNQ0.169
1,2,3,7,8,9-hexa CDF	.48	PG/L	0.100	DNQ0.140	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	0.100	ND	ND	DNQ0.036	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	0.010	DNQ0.027	ND	DNQ0.067	DNQ0.030
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	0.010	ND	ND	ND	ND
octa CDF	.84	PG/L	0.001	DNQ0.007	DNQ0.003	DNQ0.013	DNQ0.006

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Above are permit required CDD/CDF isomers.

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

2015
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 5, 2015	9,200,000	1,300,000	35,000
January 12, 2015	3,500,000	1,700,000	16,000e
January 20, 2015	9,200,000	5,400,000	260,000
January 26, 2015	3,500,000	1,700,000	44,000
Average	6,400,000	2,500,000	89,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
February 2, 2015	7,900,000	1,100,000	35,000
February 9, 2015	14,000,000	3,300,000	45,000
February 17, 2015	5,400,000	3,500,000	40,000
February 23, 2015	5,400,000	1,700,000	27,000
Average	8,200,000	2,400,000	37,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
March 2, 2015	16,000,000	490,000	11,000e
March 10, 2015	2,400,000	1,300,000	30,000e
March 17, 2015	9,200,000	5,400,000	120,000e
March 24, 2015	>16,000,000	3,500,000	190,000e
March 30, 2015	4,900,000	790,000	65,000e
Average	9,700,000	2,300,000	83,000

*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 6 2015	>16,000,000	16,000,000	330,000
April 13, 2015	7,900,000	2,200,000	130,000e
April 20, 2015	24,000,000	2,200,000	54,000
April 27, 2015	35,000,000	17,000,000	190,000e
Average	21,000,000	9,400,000	180,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
May 4, 2015	35,000,000	35,000,000	80,000e
May 11, 2015	54,000,000	7,000,000	70,000e
May 18, 2015	35,000,000	7,900,000	130,000e
May 26, 2015	18,720,000^	4,106,000^	36,540^
Average	36,000,000	14,000,000	79,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
June 1, 2015	24,000,000	1,700,000	53,000
June 8, 2015	24,000,000	7,900,000	78,000e
June 15, 2015	92,000,000	35,000,000	66,000e
June 22, 2015	13,000,000	4,900,000	60,000e
June 29, 2015	54,000,000	17,000,000	210,000
Average	41,000,000	13,000,000	93,000

*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.
^Method used for this analysis is IDEXX Quanti-Tray using Enterolert reagents (SM9223), values are stated in terms of MPN/100ml.

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
July 6, 2015	35,000,000	13,000,000	420,000
July 13, 2015	13,000,000	1,700,000	120,000e
July 20, 2015	11,000,000	7,000,000	59,000
July 27, 2015	11,000,000	3,100,000	58,000
Average	18,000,000	6,200,000	160,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
August 3, 2015	13,000,000	2,200,000	66,000e
August 10, 2015	35,000,000	11,000,000	90,000
August 17, 2015	7,900,000	1,700,000	120,000e
August 24, 2015	9,400,000	7,000,000	72,000e
August 31, 2015	35,000,000	3,300,000	170,000e
Average	20,000,000	5,000,000	100,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
September 8, 2015	35,000,000	13,000,000	80,000e
September14, 2015	7,900,000	4,900,000	120,000e
September 21, 2015	35,000,000	4,900,000	81,000e
September 28, 2015	4,900,000	2,200,000	52,000
Average	21,000,000	6,200,000	83,000

*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	
October 5, 2015	24,000,000	4,900,000	80,000e
October 13, 2015	7,900,000	4,900,000	580,000
October 19, 2015	7,900,000	3,300,000	170,000e
October 26, 2015	24,000,000	4,900,000	70,000e
Average	16,000,000	4,500,000	220,0007

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
November 2, 2015	7,900,000	2,800,000	100,000e
November 9, 2015	17,000,000	17,000,000	250,000
November 16, 2015	13,000,000	7,900,000	220,000
November 23, 2015	13,000,000	7,900,000	140,000e
November 30, 2015	35,000,000	4,600,000	280,000
Average	17,000,000	8,000,000	200,000

DATE	COLIFORM* (MPN Index/100ml)		ENTEROCOCCUS** (CFU/100 ml)
	Total	Fecal	
December 8, 2015	35,000,000	17,000,000	180,000e
December 14, 2015	3,300,000	1,300,000	2,600
December 22, 2015	13,000,000	4,900,000	64,000e
December 28, 2015	7,900,000	2,300,000	170,000e
Average	15,000,000	6,400,000	100, 000

*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.
^Method used for this analysis is IDEXX Quanti-Tray using Enterolert reagents (SM9223), values are stated in terms of MPN/100ml.

POINT LOMA WASTEWATER TREATMENT PLANT
From 01-JAN-2015 To 31-DEC-2015

Analyte:	Total Hardness		Calcium Hardness		Magnesium Hardness		Calcium		Magnesium	
MDL:	.512	mg/L	.1	mg/L	.412	mg/L	.04	mg/L	.1	mg/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2015	463	459	238	234	225	223	95.6	94.5	54.6	54.3
FEBRUARY -2015	446	443	225	223	221	220	90.0	89.2	53.7	53.5
MARCH -2015	446	439	226	223	220	217	90.4	89.3	53.4	52.6
APRIL -2015	468	465	239	238	229	227	95.9	95.2	55.6	55.3
MAY -2015	463	466	240	242	224	224	95.9	97.0	54.3	54.3
JUNE -2015	430	424	212	209	218	215	84.8	83.5	53.0	52.3
JULY -2015	431	425	209	206	222	220	83.8	82.3	53.9	53.4
AUGUST -2015	461	451	232	227	229	223	92.9	91.0	55.5	54.2
SEPTEMBER-2015	524	517	260	252	264	265	105.0	101.0	64.2	64.3
OCTOBER -2015	508	511	249	251	259	260	100.0	101.0	62.8	63.2
NOVEMBER -2015	411	426	195	202	216	225	78.1	80.7	52.4	54.6
DECEMBER -2015	457	437	224	215	233	222	89.7	86.1	56.7	54.1
Average:	459	455	229	227	230	228	91.8	90.9	55.8	55.5

Analyte:	Alkalinity		Total Solids		Total Vol. Solids		Conductivity		Fluoride	
MDL:	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 -2015	306	299	2010	1700	555	285	2890	2920	0.73	0.74
FEBRUARY -2015	313	308	2070	1760	593	324	2960	2980	0.82	0.85
MARCH -2015	311	301	2080	1720	614	319	2880	2920	0.75	0.81
APRIL -2015	328	322	2120	1780	587	291	3000	3040	0.73	0.77
MAY -2015	331	320	2200	1820	630	313	3100	3100	0.70	0.78
JUNE -2015	320	313	2150	1780	666	336	2940	2970	0.62	0.59
JULY -2015	313	307	2130	1770	627	325	2930	2980	0.50	0.54
AUGUST -2015	329	320	2220	1800	621	320	3010	3020	0.60	0.61
SEPTEMBER-2015	322	315	2280	1950	643	364	3160	3210	0.58	0.61
OCTOBER -2015	318	307	2300	1970	595	324	3120	3160	0.57	0.64
NOVEMBER -2015	331	320	2250	1910	632	337	3190	3230	0.47	0.51
DECEMBER -2015	324	310	2230	1900	623	366	3180	3180	0.37	0.38
Average:	321	312	2170	1822	616	325	3030	3059	0.62	0.65

Analyte:	Chloride		Bromide		Sulfate		Nitrate		Ortho Phosphate	
MDL:	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 -2015	552	573	1.3	1.3	286	278	ND	0.45	3.9	2.8
FEBRUARY -2015	582	591	1.3	1.3	272	263	0.08	0.27	4.3	3.1
MARCH -2015	564	577	1.3	1.3	275	266	ND	0.49	4.5	3.6
APRIL -2015	587	605	1.3	1.3	284	275	ND	0.72	5.9	5.9
MAY -2015	609	619	1.4	1.4	276	263	ND	0.09	5.9	5.7
JUNE -2015	592	609	1.3	1.4	251	241	ND	0.49	5.3	5.1
JULY -2015	599	616	1.4	1.4	232	224	ND	0.48	6.6	5.1
AUGUST -2015	597	602	1.3	1.2	268	256	0.19	0.49	6.9	5.4
SEPTEMBER-2015	648	671	1.3	1.4	284	277	ND	1.70	5.7	5.4
OCTOBER -2015	654	663	1.4	1.4	291	281	ND	0.81	4.7	5.3
NOVEMBER -2015	660	672	1.4	1.4	283	272	0.07	0.22	4.6	5.1
DECEMBER -2015	621	633	1.3	1.3	289	279	ND	0.12	4.5	3.5
Average:	605	619	1.3	1.3	274	265	0.03	0.53	5.2	4.7

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

POINT LOMA WASTEWATER TREATMENT PLANT
From 01-JAN-2015 To 31-DEC-2015

Analyte:	Lithium		Sodium		Potassium		Chemical Oxygen Demand		Soluble BOD	
MDL:	.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 -2015	0.060	0.058	365	367	28.6	28.5	716	238	88	81
FEBRUARY -2015	0.053	0.052	368	369	28.8	28.6	680	238	93	84
MARCH -2015	0.058	0.057	358	362	28.2	27.7	683	265	95	85
APRIL -2015	0.064	0.063	389	393	31.4	31.2	716	236	92	83
MAY -2015	0.057	0.057	406	408	33.6	33.1	706	247	98	83
JUNE -2015	0.050	0.049	375	377	29.3	29.0	733	255	100	86
JULY -2015	0.047	0.046	380	377	30.3	29.7	710	274	96	80
AUGUST -2015	0.059	0.058	383	378	30.5	29.7	696	250	103	86
SEPTEMBER-2015	0.046	0.048	443	457	31.2	31.3	643	238	94	80
OCTOBER -2015	0.054	0.055	430	434	28.8	28.7	654	237	99	85
NOVEMBER -2015	0.061	0.058	358	376	27.4	28.3	704	276	100	83
DECEMBER -2015	0.062	0.058	392	379	29.9	28.2	692	255	95	77
Average:	0.06	0.05	387	390	29.8	29.5	694	251	96	83

Analyte:	Total Disolved Solids		Floatables		Turbidity		Aluminum		Barium	
MDL:	250	mg/L	4.2	mg/L	.13	NTU	23.8	ug/L	.7	ug/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2015	1660	1630	1.41	ND	141	33	629	56	120	52
FEBRUARY -2015	1660	1640	<1.40	ND	143	32	609	24	111	45
MARCH -2015	1690	1660	<1.40	ND	138	36	708	52	125	49
APRIL -2015	1740	1730	<1.40	ND	135	34	698	49	135	53
MAY -2015	1720	1710	<1.40	ND	154	37	397	31	97	49
JUNE -2015	1740	1730	<1.40	ND	135	37	759	61	110	41
JULY -2015	1760	1740	<1.40	<1.40	169	40	619	89	97	40
AUGUST -2015	1820	1790	<1.40	ND	176	39	755	ND	133	49
SEPTEMBER-2015	1930	1900	<1.40	ND	133	37	611	<23.8	125	53
OCTOBER -2015	1960	1940	<1.40	ND	131	40	673	74	137	59
NOVEMBER -2015	1820	1810	<4.20	ND	182	39	792	67	125	53
DECEMBER -2015	1830	1790	2.04	ND	162	35	653	52	112	47
Average:	1778	1756	0.29	0.00	150	37	659	46	119	49

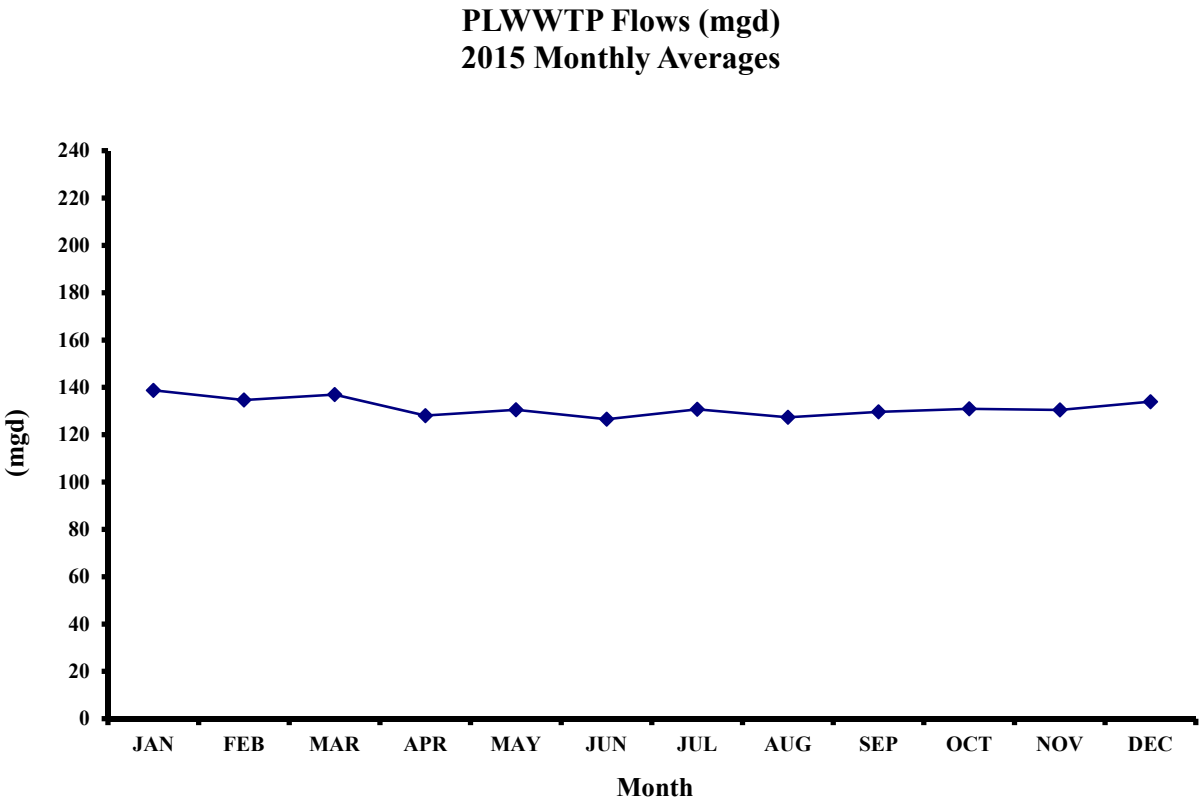
Analyte:	Boron		Cobalt		Molybdenum		Manganese		Vanadium	
MDL:	1.4	ug/L	.24	ug/L	.32	ug/L	.78	ug/L	.45	ug/L
Source:	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
JANUARY -2015	398	391	1.220	0.920	8.16	6.12	130	124	4.10	0.87
FEBRUARY -2015	382	375	1.090	0.786	8.97	6.73	130	121	4.19	0.80
MARCH -2015	392	388	1.580	0.998	9.00	6.42	129	118	6.54	1.44
APRIL -2015	419	414	1.500	0.811	10.10	6.40	127	120	8.99	2.26
MAY -2015	424	435	1.310	0.875	2.05	6.62	121	125	9.69	3.54
JUNE -2015	443	414	1.200	0.765	9.89	6.23	121	114	10.1	2.58
JULY -2015	430	420	1.600	0.935	9.67	7.08	121	115	9.36	2.96
AUGUST -2015	421	376	1.230	ND	12.00	5.88	168	142	7.50	ND
SEPTEMBER-2015	410	403	1.700	0.875	10.70	6.81	131	127	6.80	1.78
OCTOBER -2015	423	418	1.460	0.820	10.20	6.80	139	127	7.10	1.72
NOVEMBER -2015	449	439	1.460	0.980	9.48	6.19	133	125	6.94	1.71
DECEMBER -2015	431	436	1.580	1.010	8.80	6.60	128	125	5.53	1.28
Average:	419	409	1.411	0.815	9.09	6.49	132	124	7.24	1.75

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

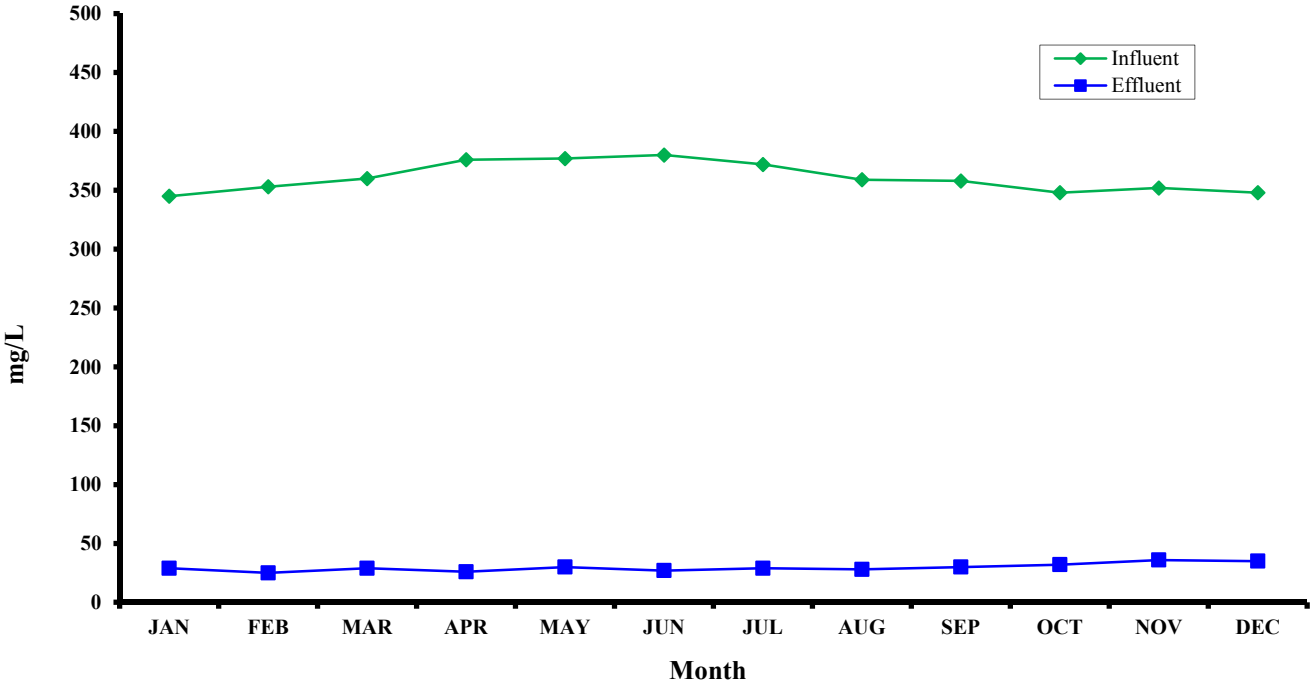
D. Influent and Effluent Graphs

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

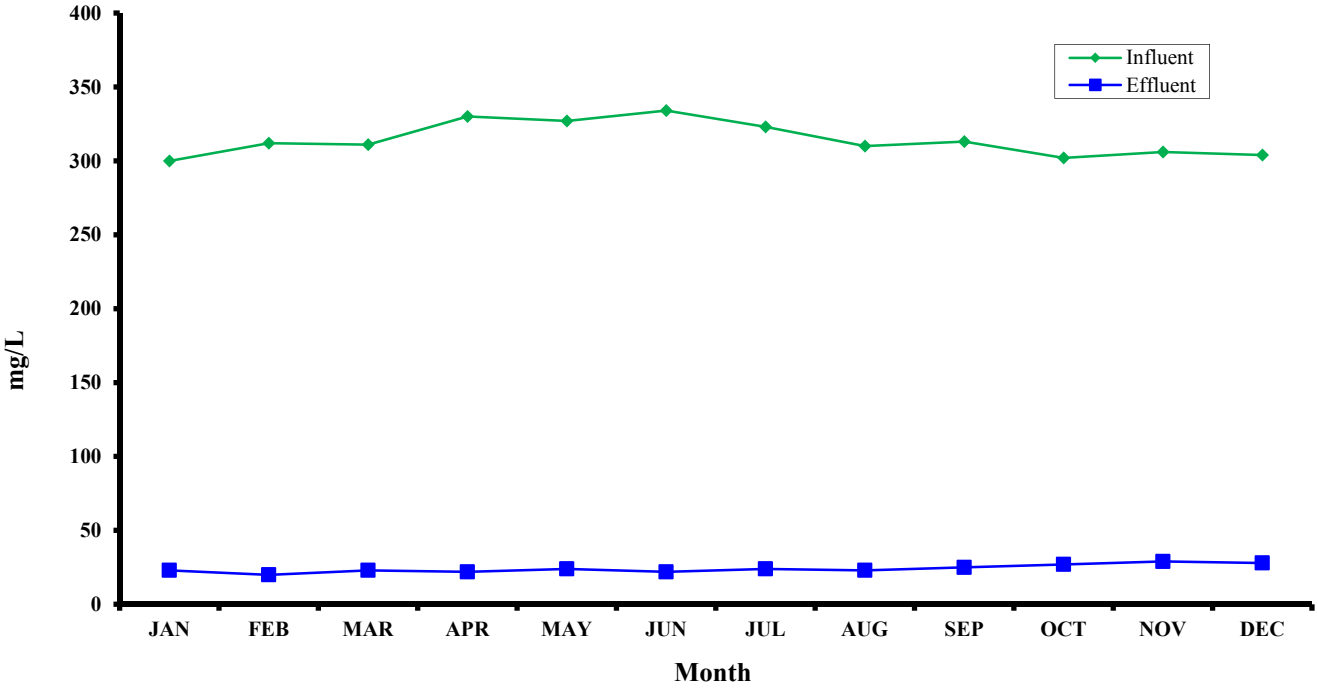
Where possible, the influent and effluent values of a given parameter have been included on the same graph so that removals and other relationships are readily apparent. Please note that many of the graphs are on expanded scales. That is, they may not go to zero concentrations but show, in magnified 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.



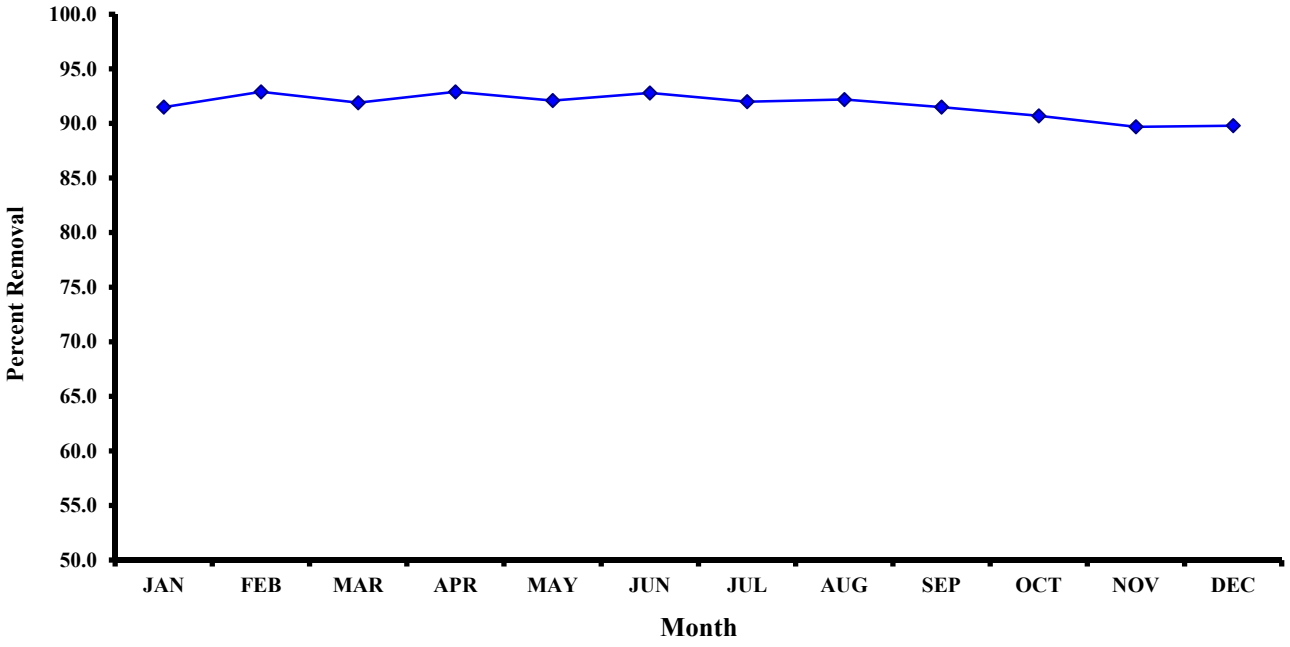
Total Suspended Solids (mg/L)
2015 Monthly Averages



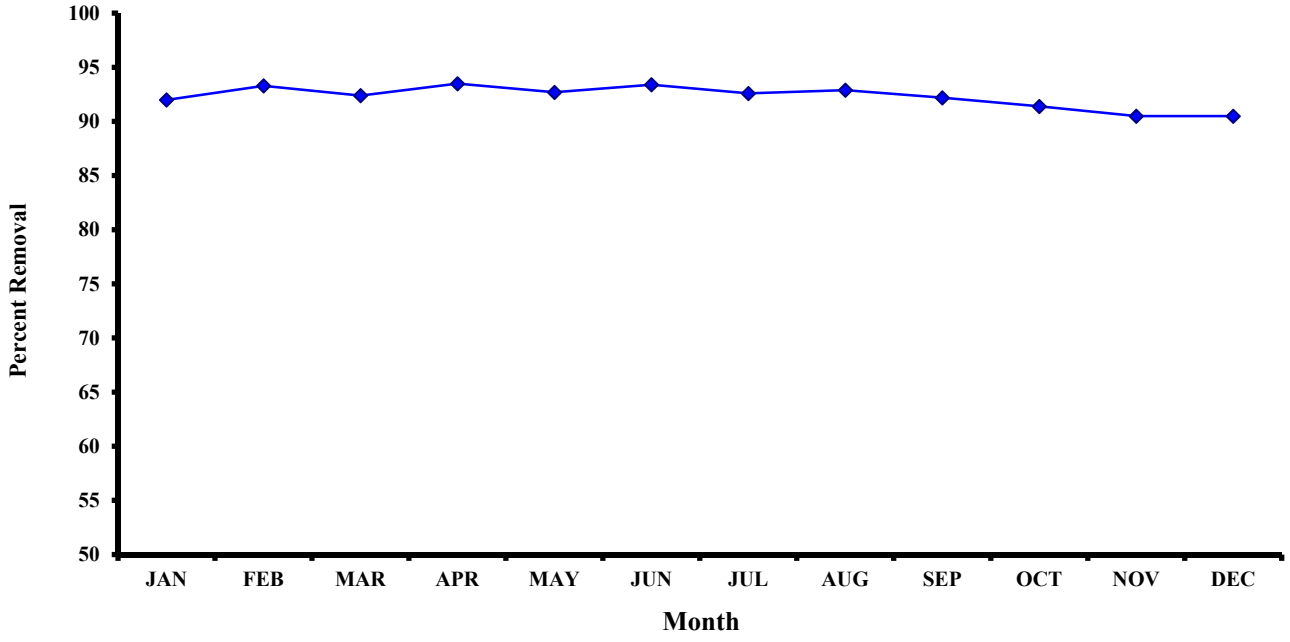
Volatile Suspended Solids (mg/L)
2015 Monthly Averages



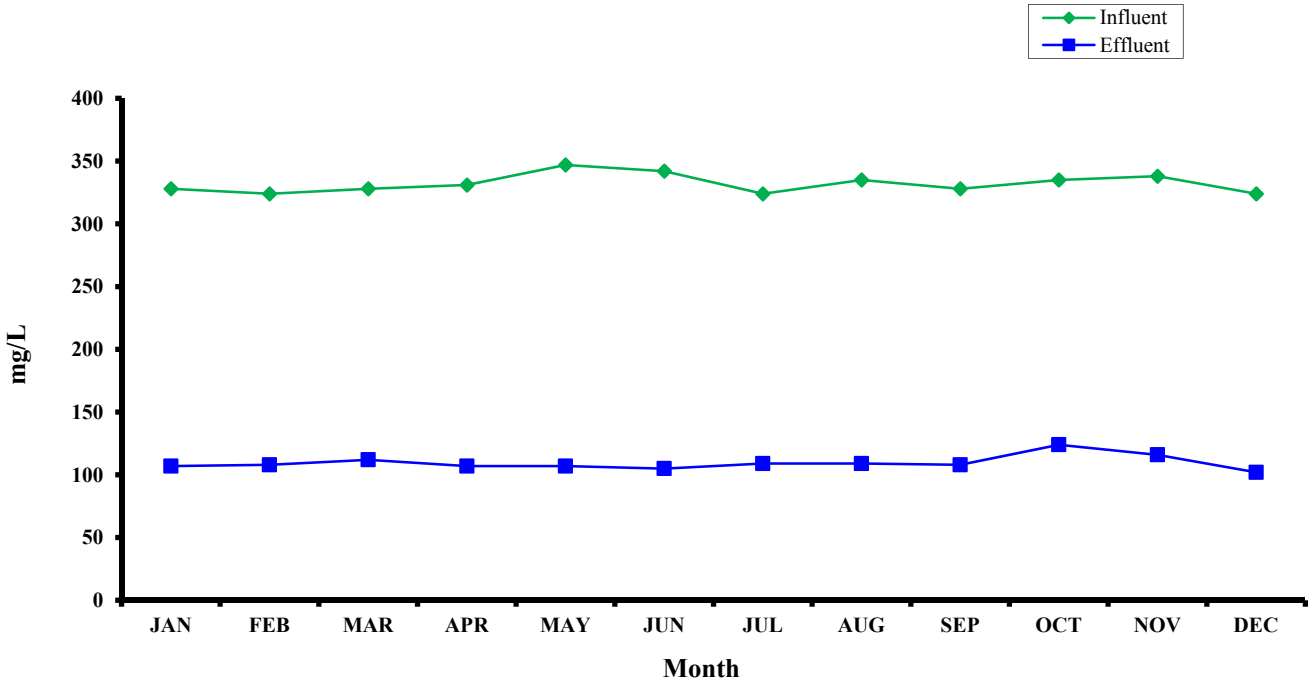
Total Suspended Solids (%) Removal
2015 Monthly Averages



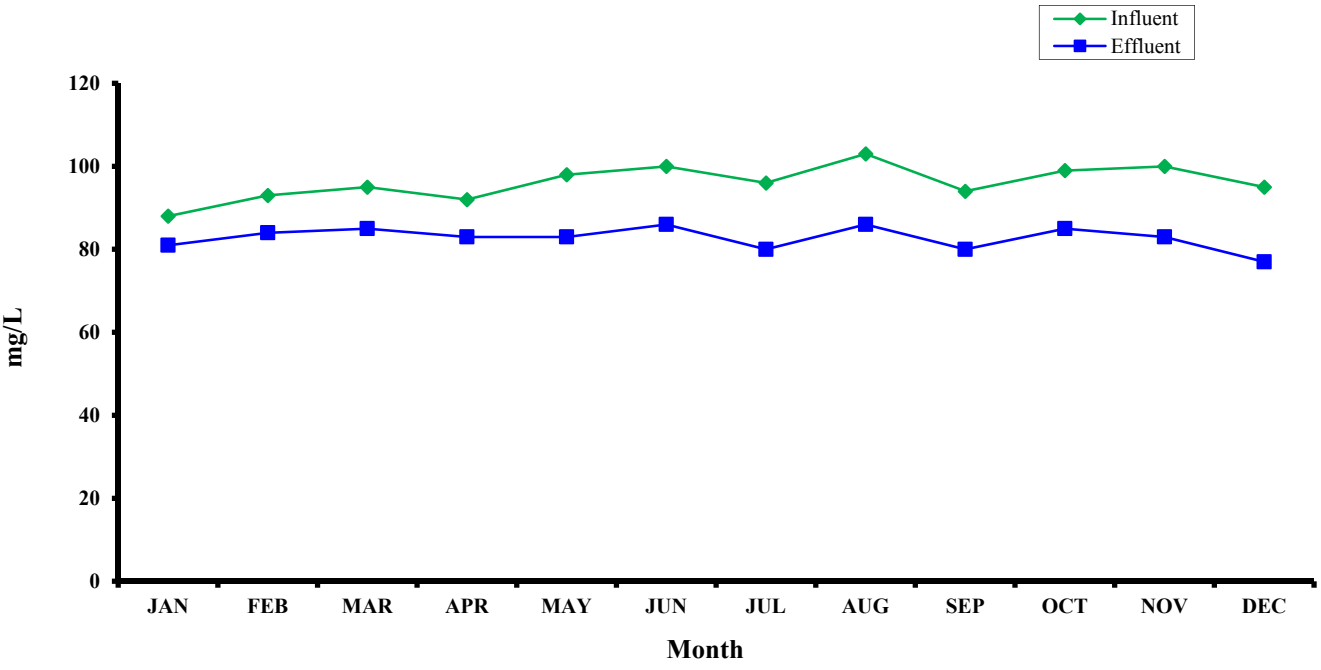
Total Suspended Solids (%) Removal
2015 Monthly Averages Systemwide



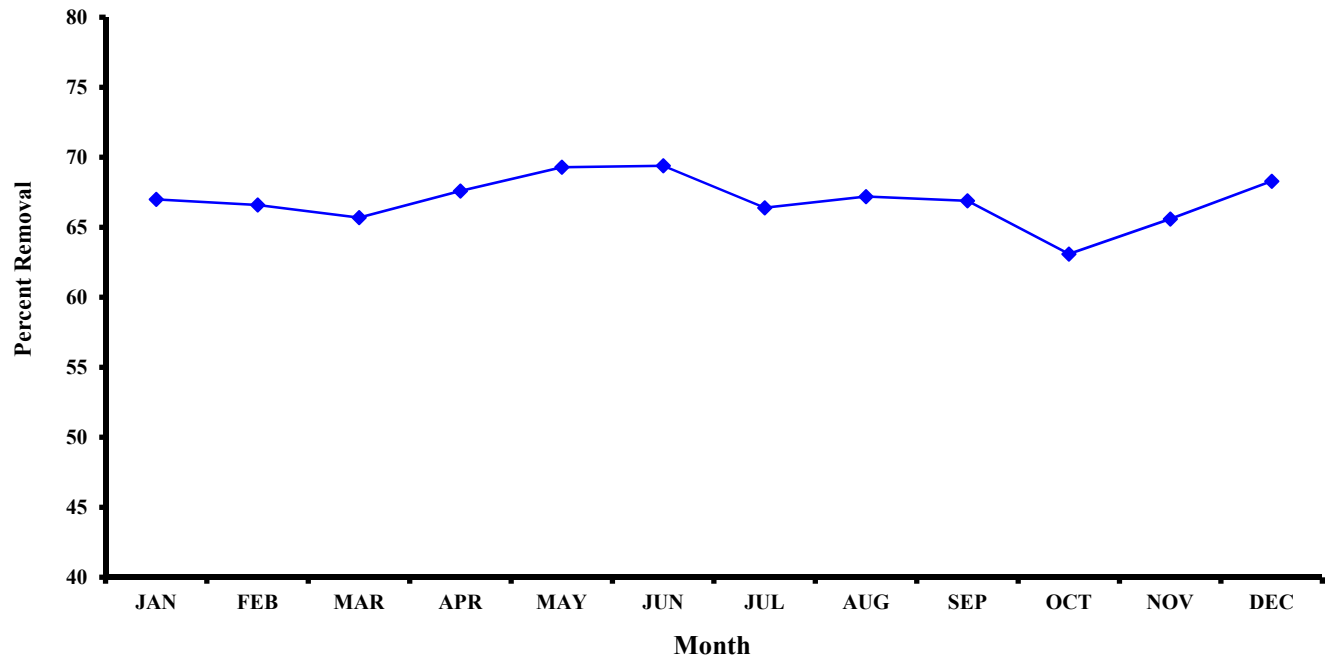
Biochemical Oxygen Demand
2015 Monthly Averages



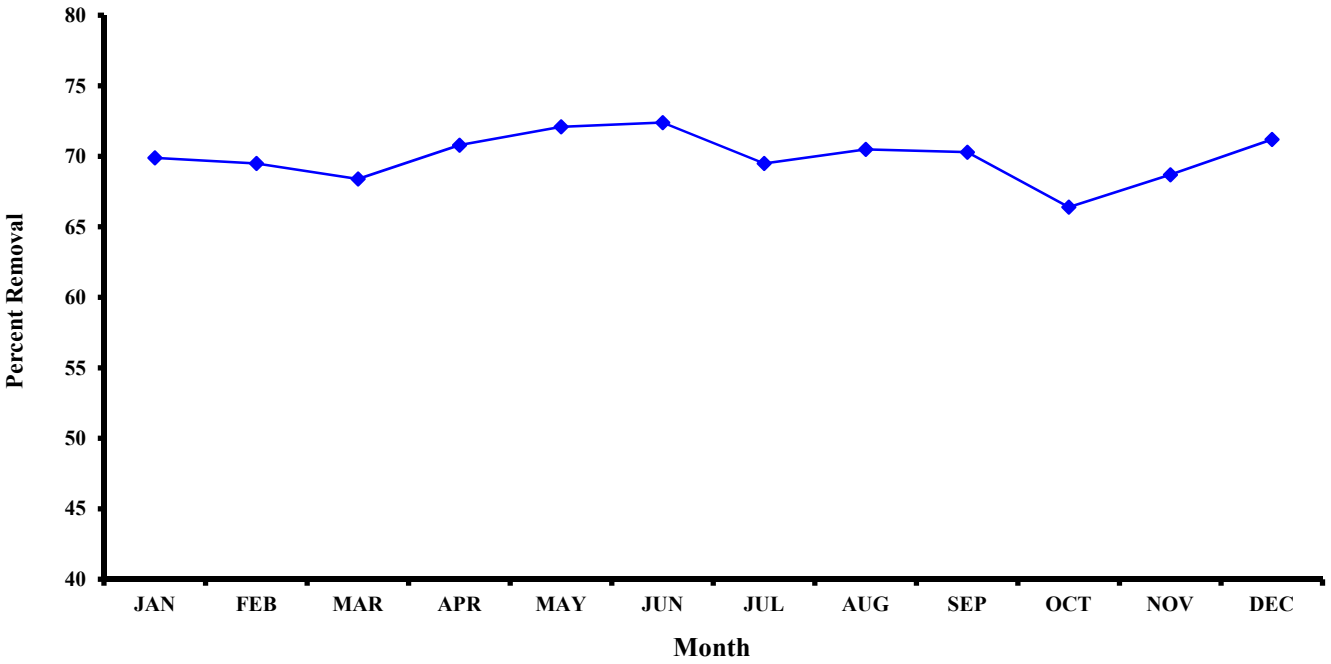
Soluble Biochemical Oxygen Demand
2015 Monthly Averages



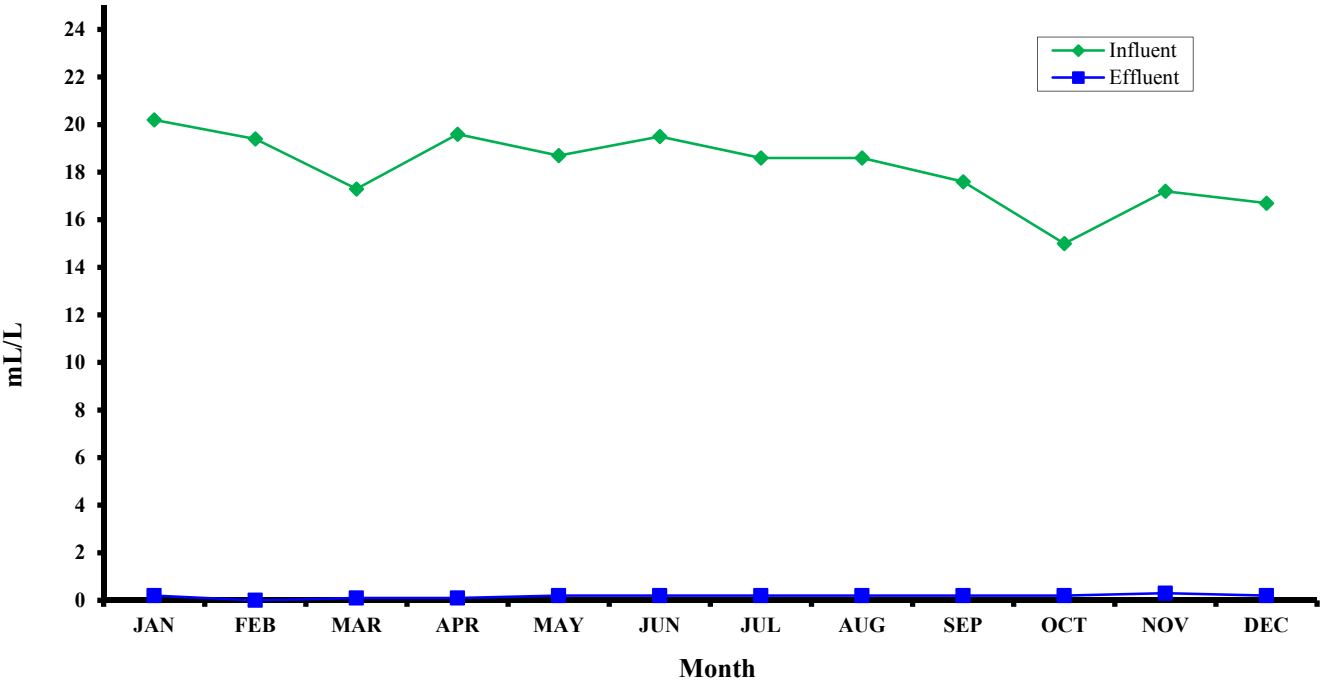
Biochemical Oxygen Demand (%) Removal
2015 Monthly Averages



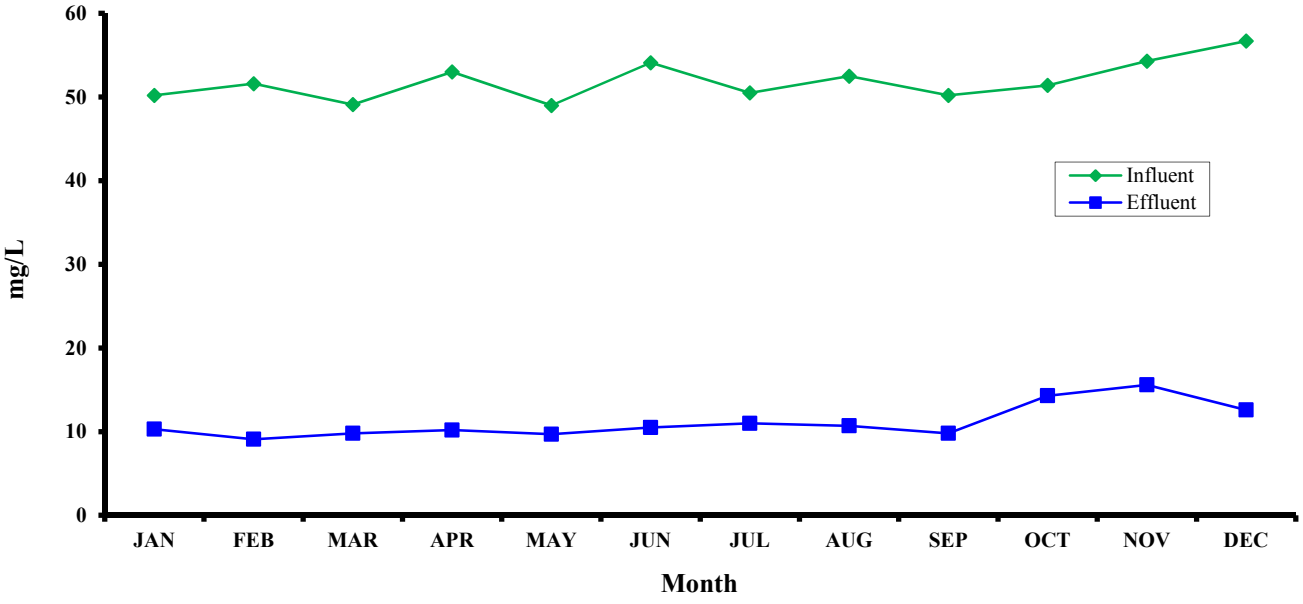
Biochemical Oxygen Demand (%) Removal
2015 Monthly Averages Systemwide



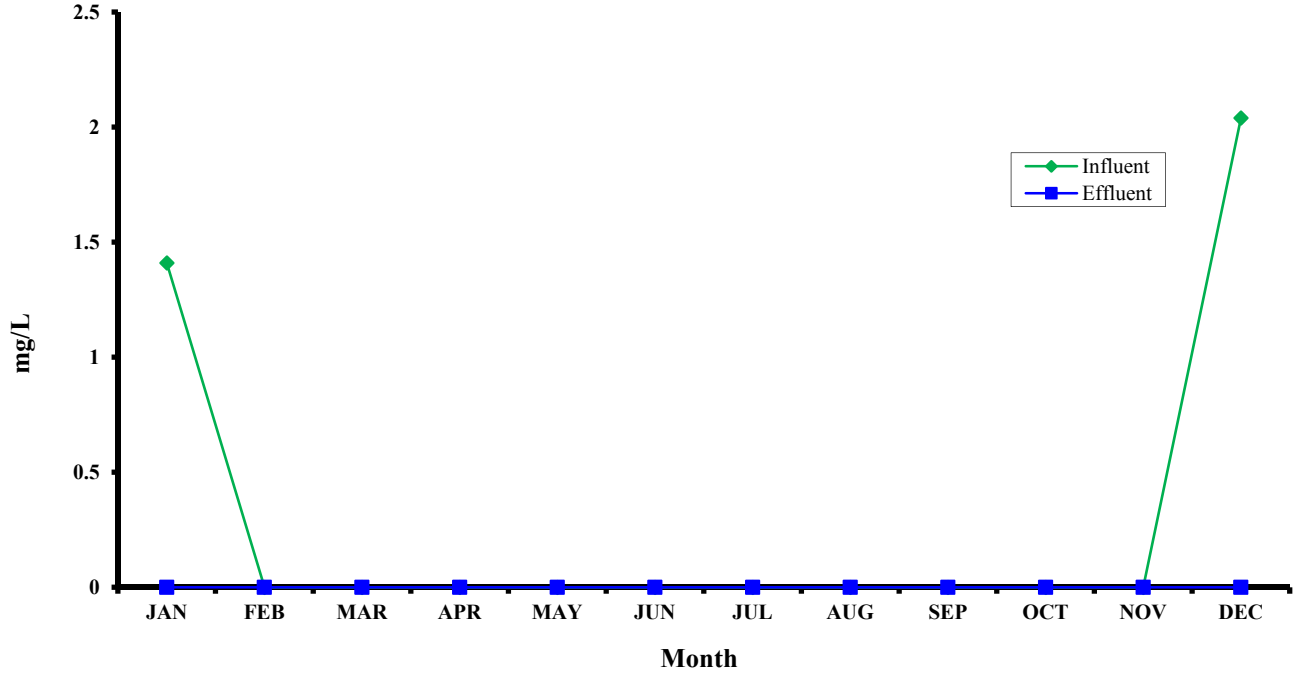
Settleable Solids (mL/L)
2015 Monthly Averages



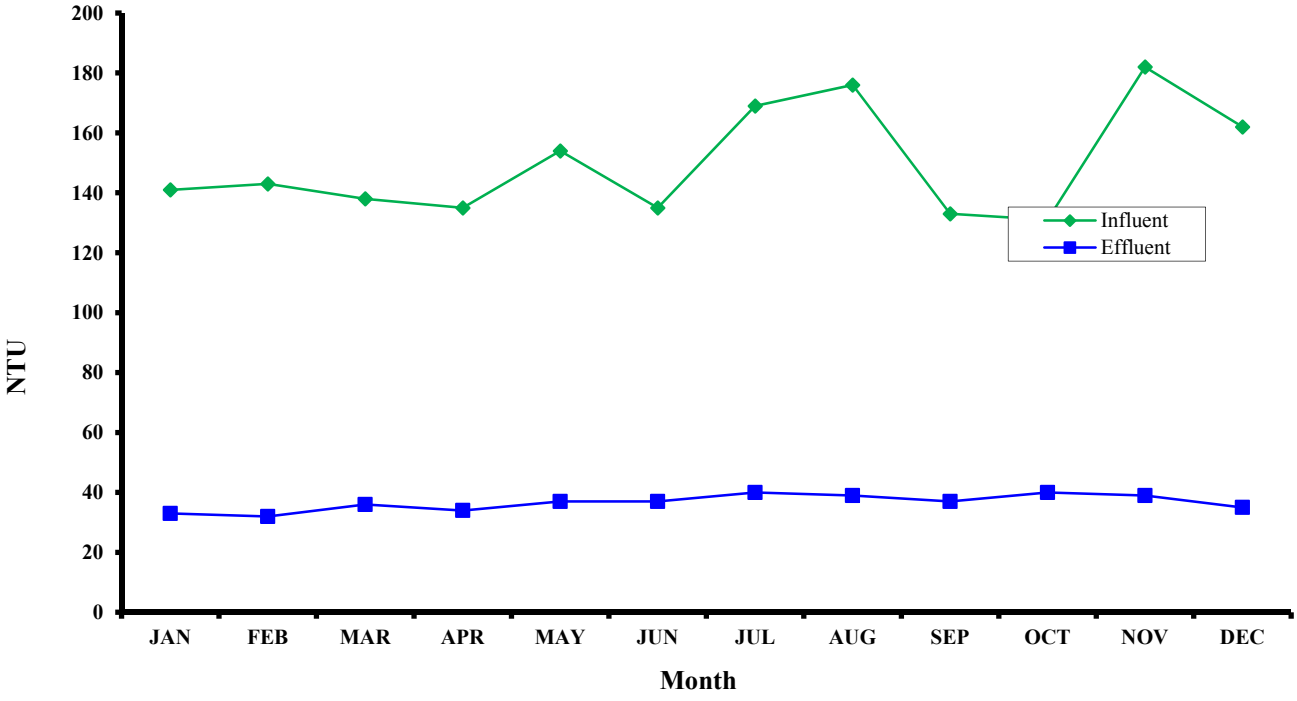
Hexane Extractable Material (mg/L)
2015 Monthly Averages



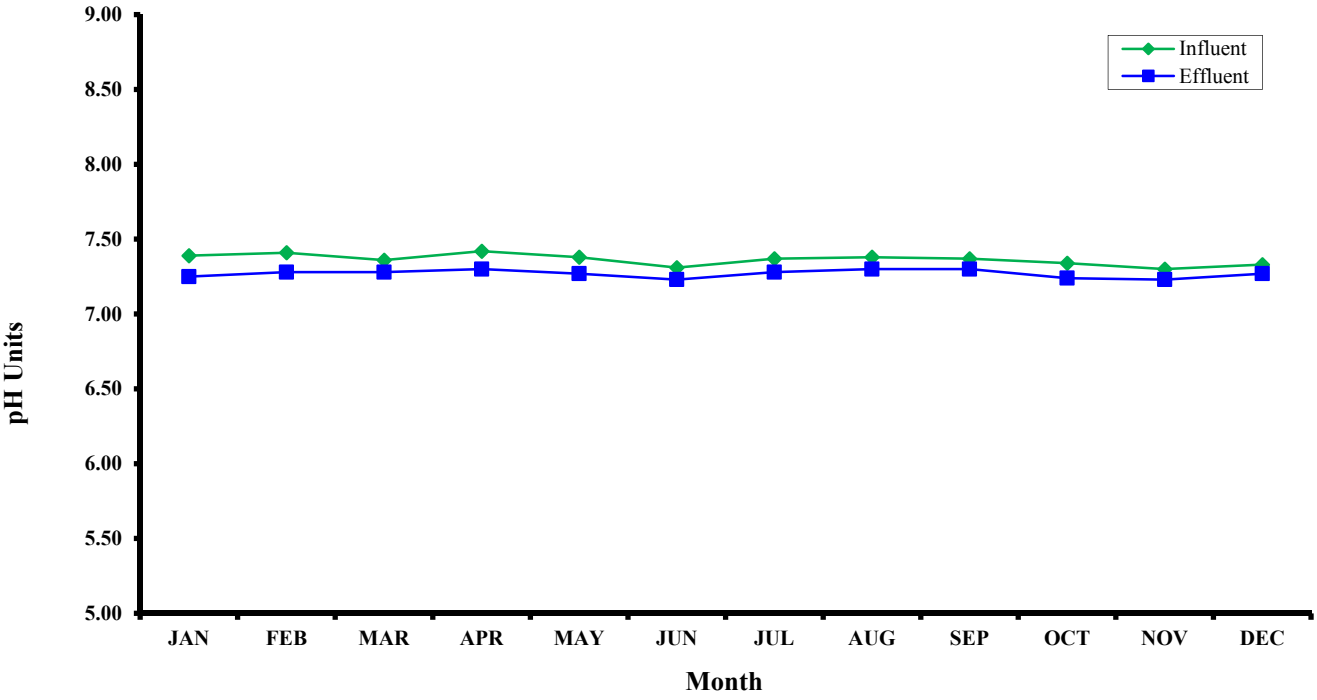
Floatables (mg/L)
2015 Monthly Averages



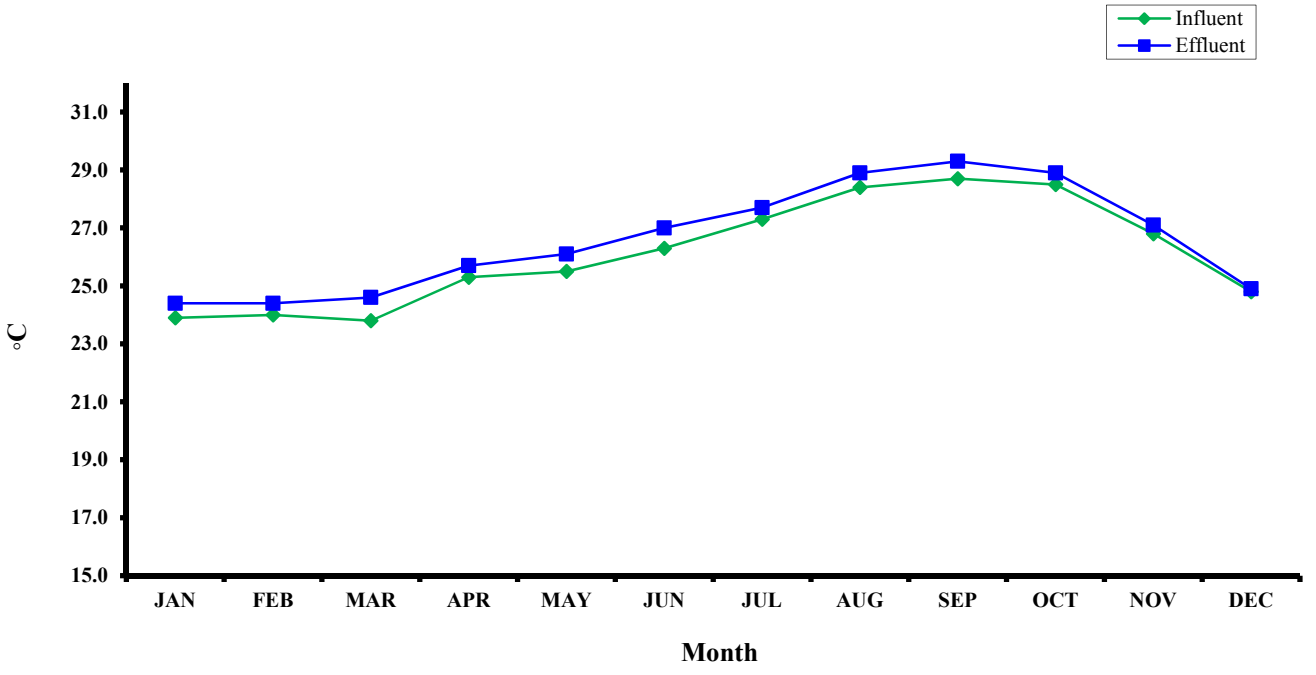
Turbidity (NTU)
2015 Monthly Averages



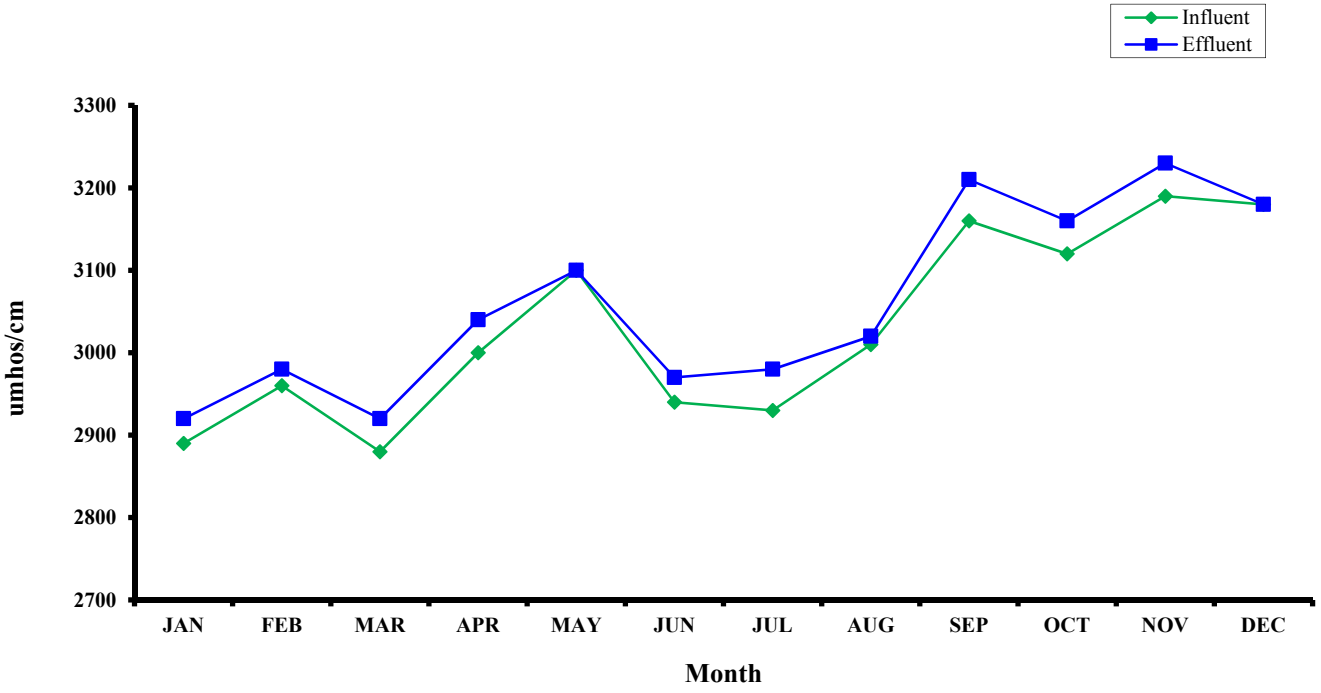
pH
2015 Monthly Averages



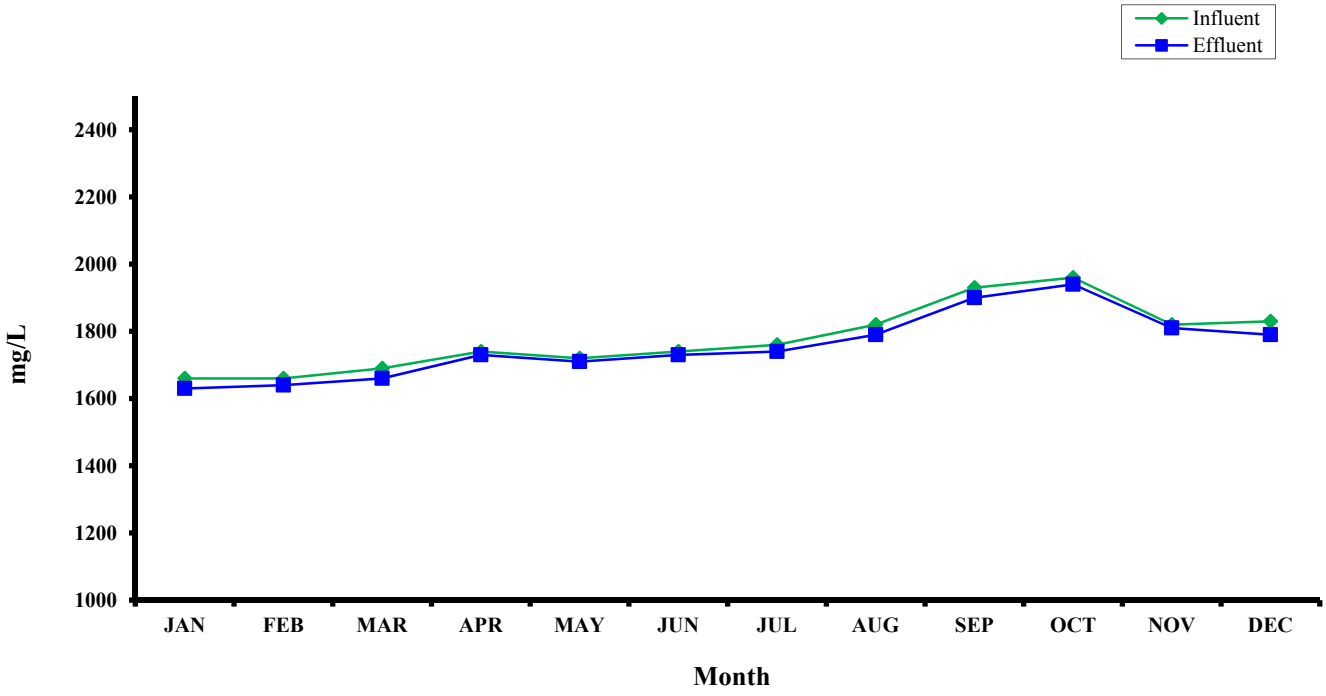
Temperature (°C)
2015 Monthly Averages



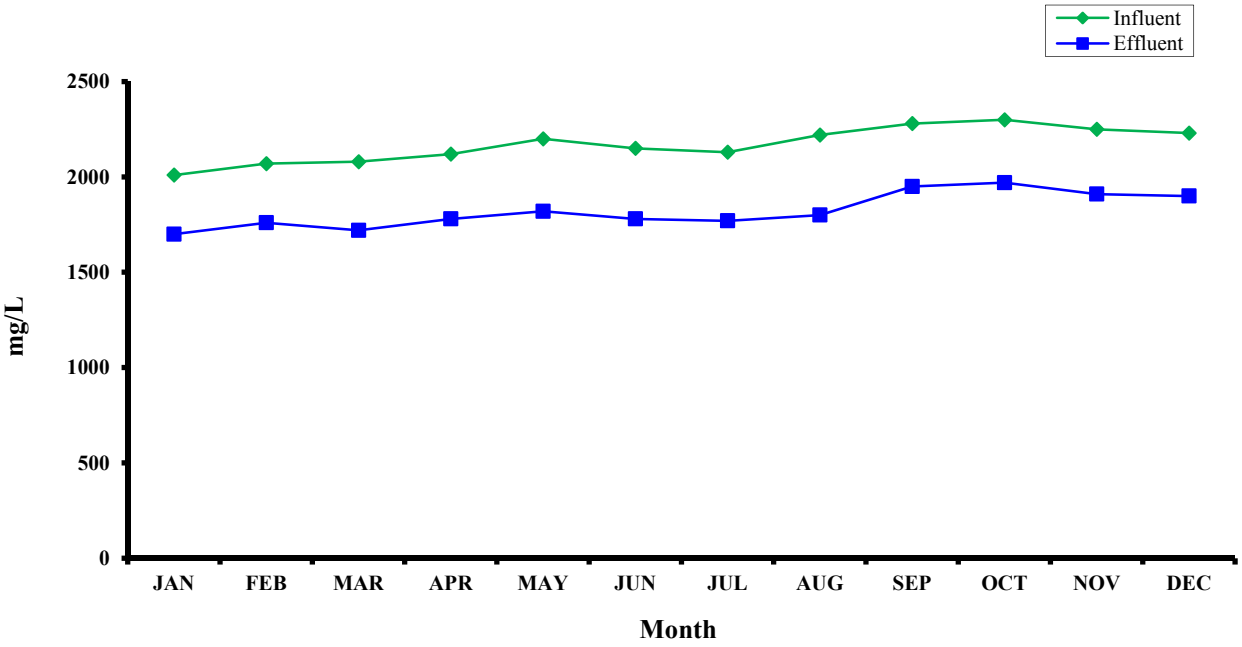
Conductivity (umhos/cm)
2015 Monthly Averages



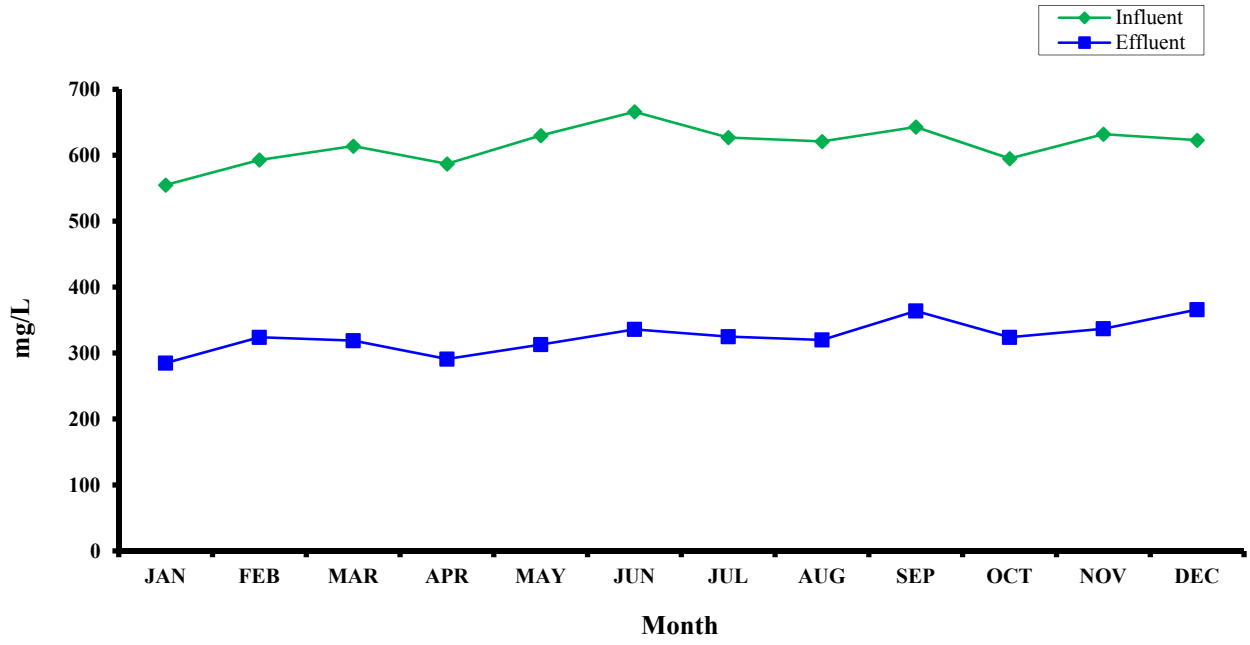
Total Dissolved Solids (mg/L)
2015 Monthly Averages



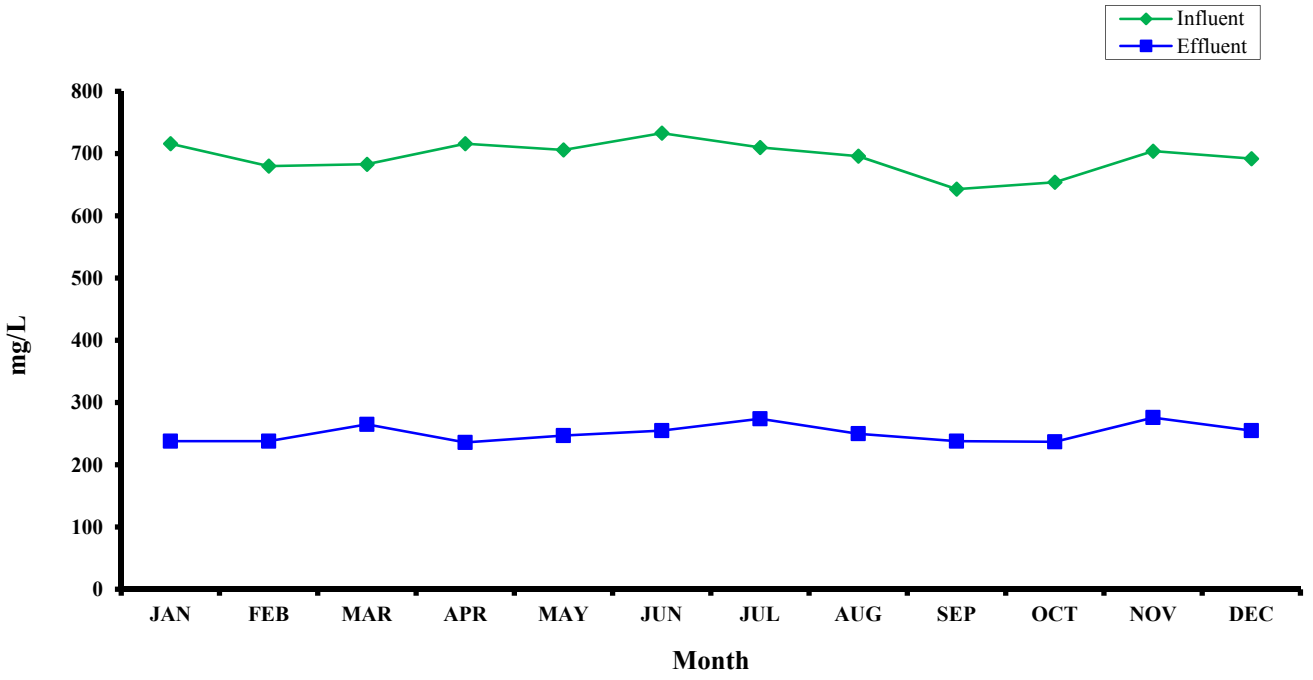
Total Solids (mg/L)
2015 Monthly Averages



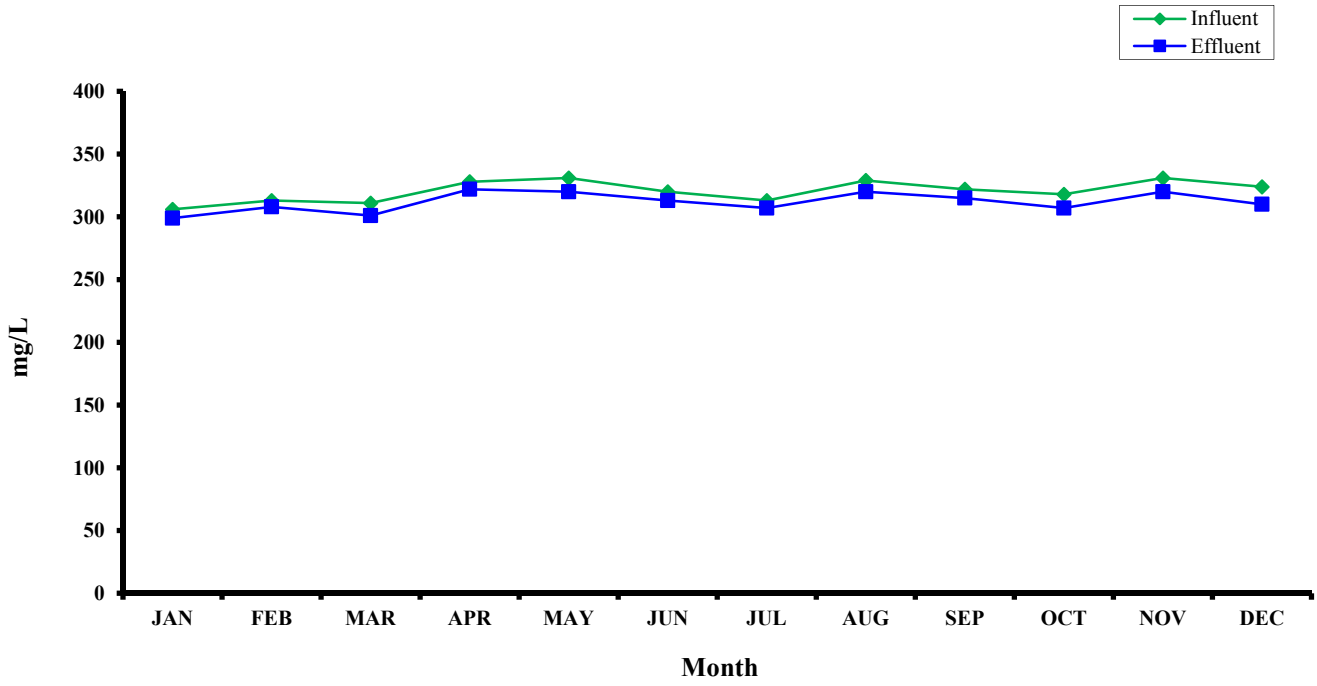
Total Volatile Solids (mg/L)
2015 Monthly Averages



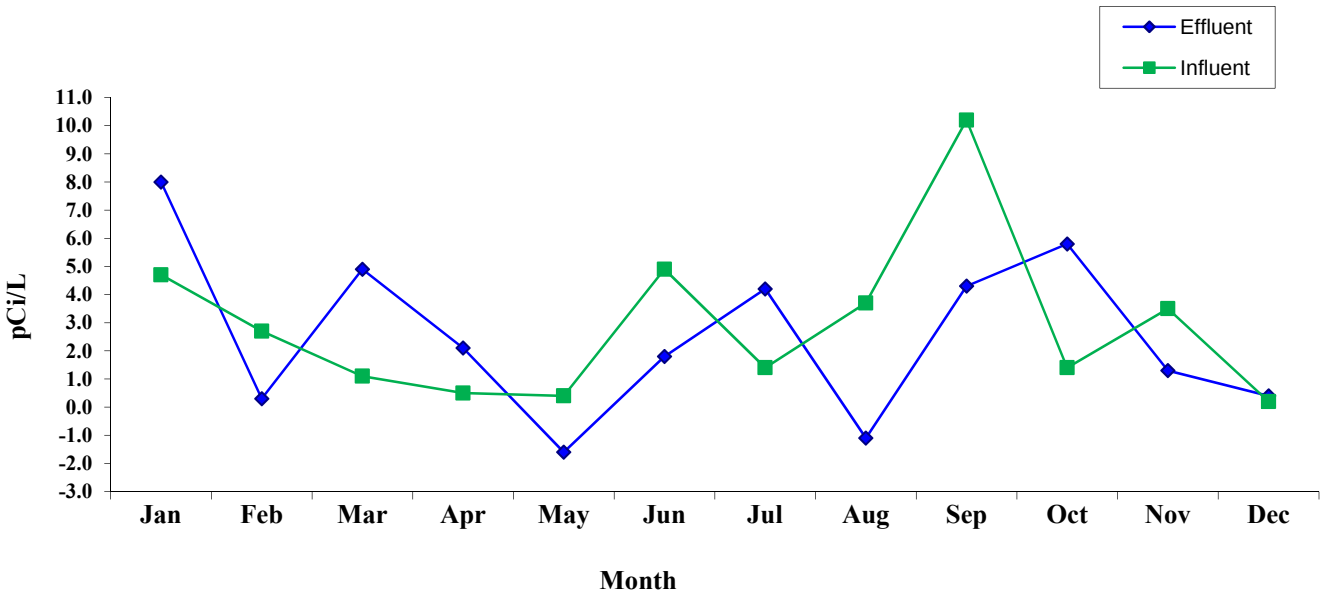
Chemical Oxygen Demand (mg/L)
2015 Monthly Averages



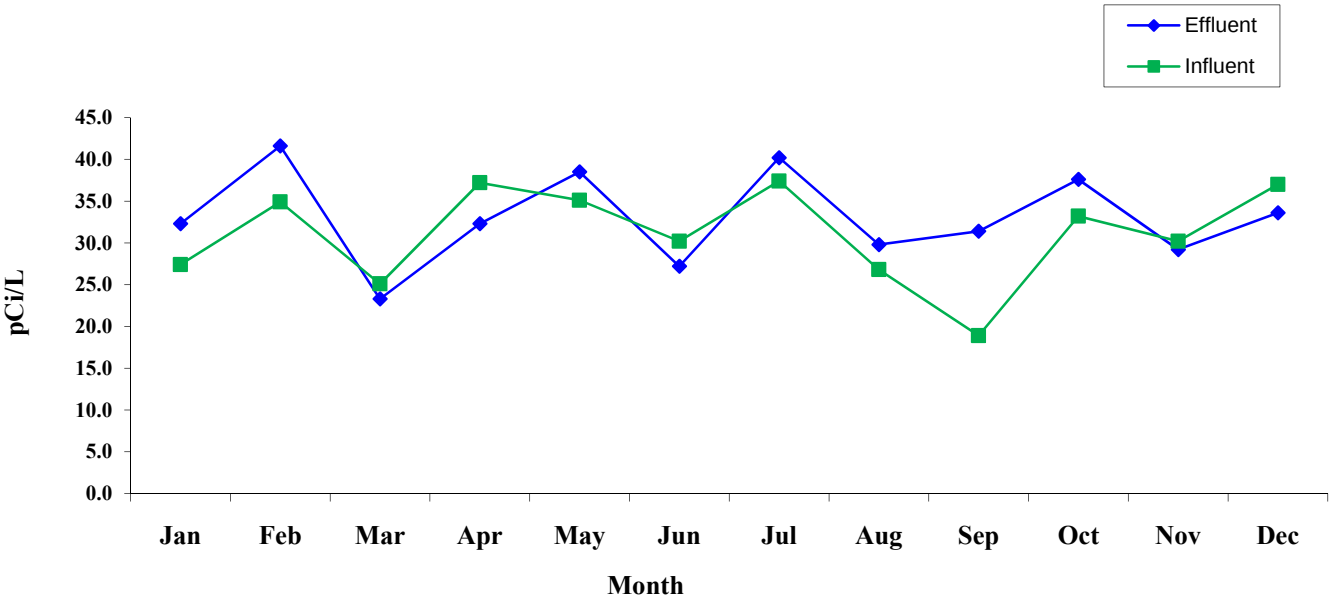
Alkalinity (mg/L)
2015 Monthly Averages

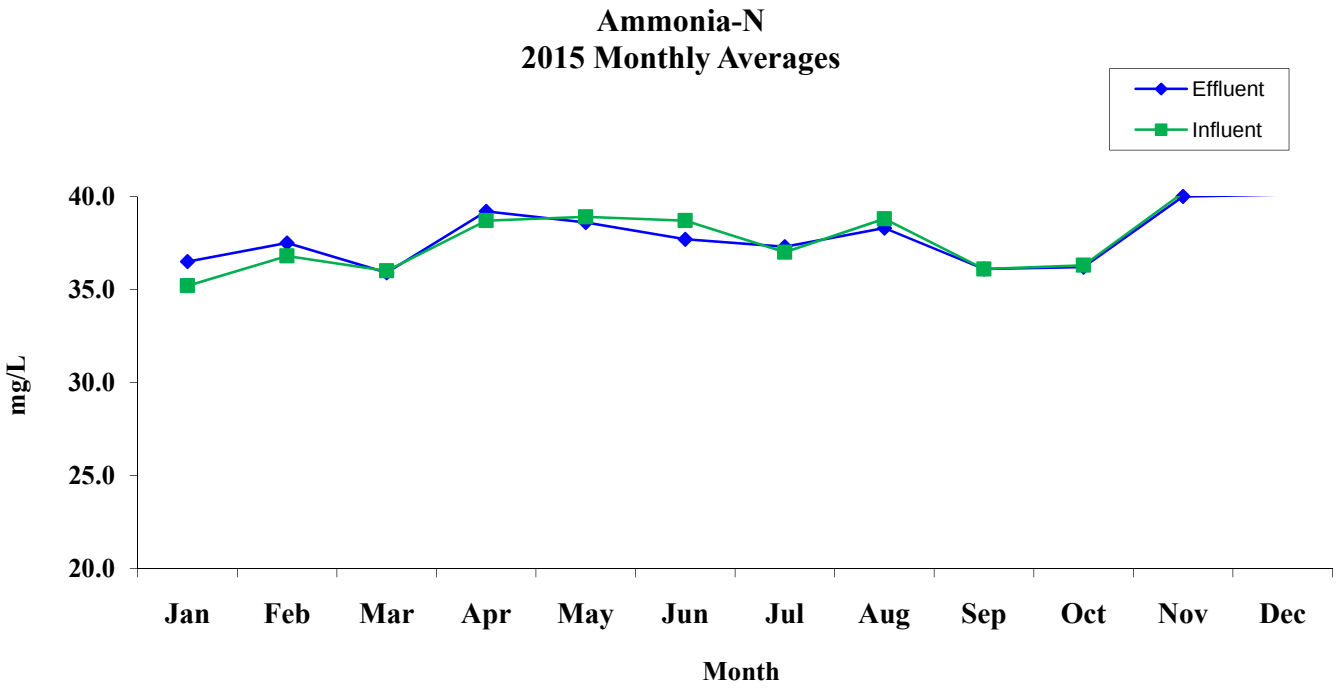


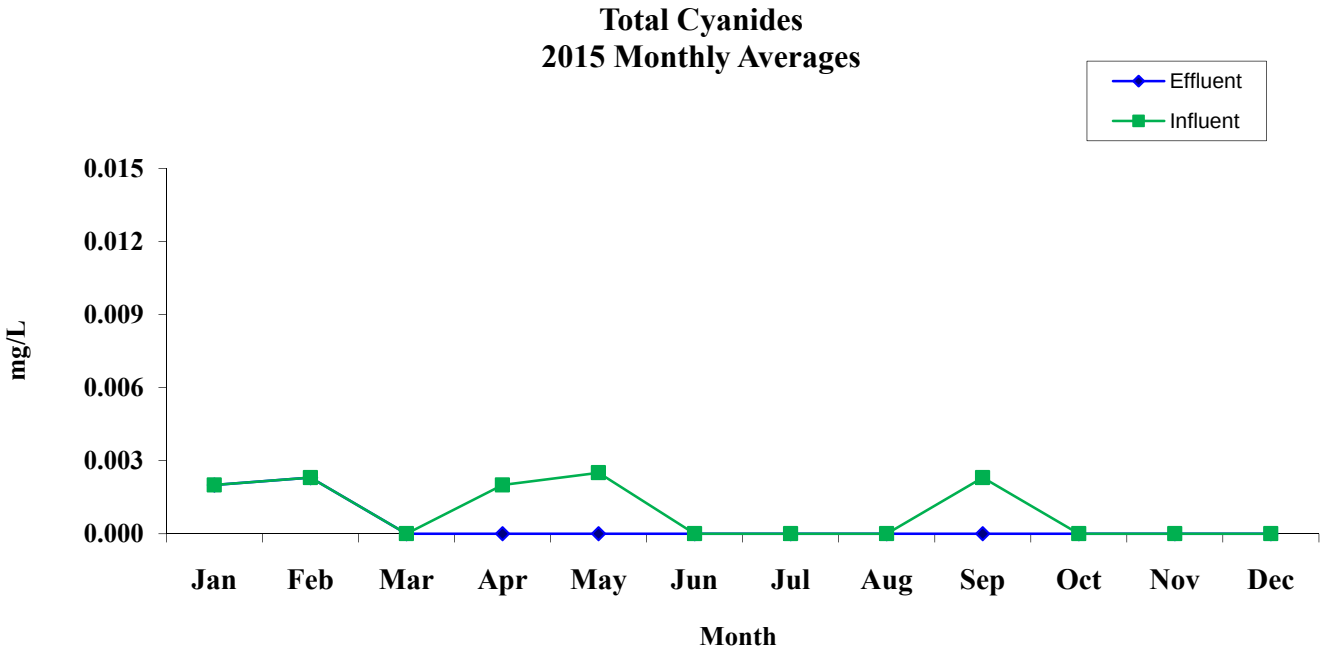
Alpha Radiation
2015 Monthly Averages



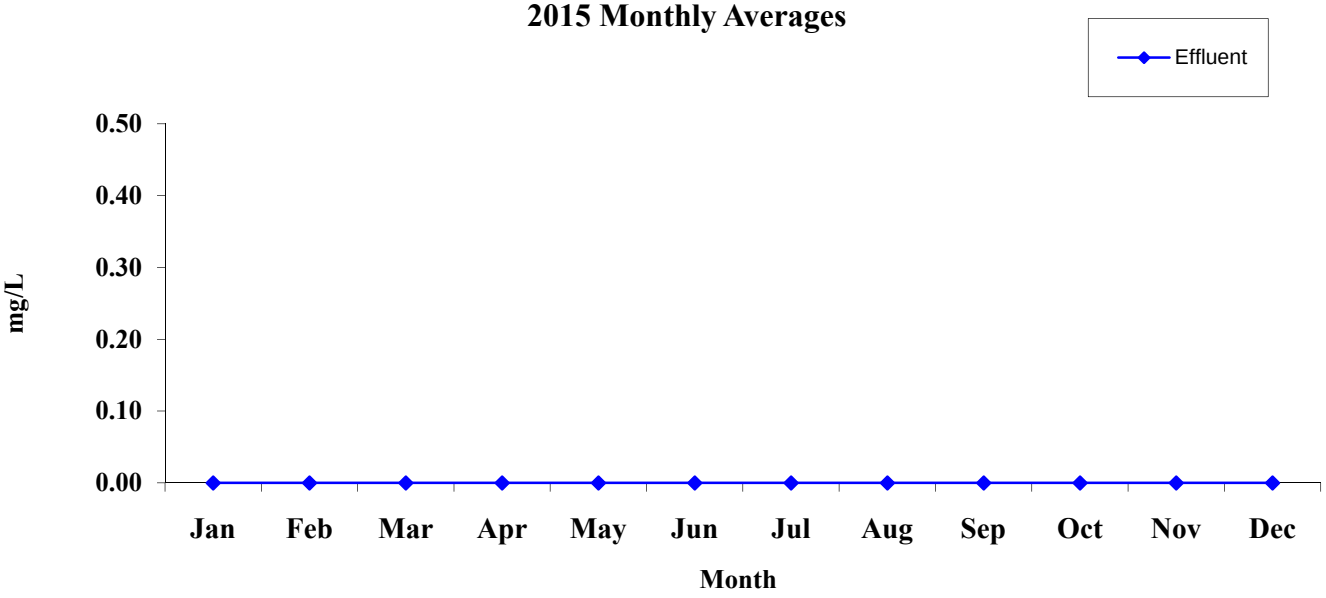
Beta Radiation
2015 Monthly Averages



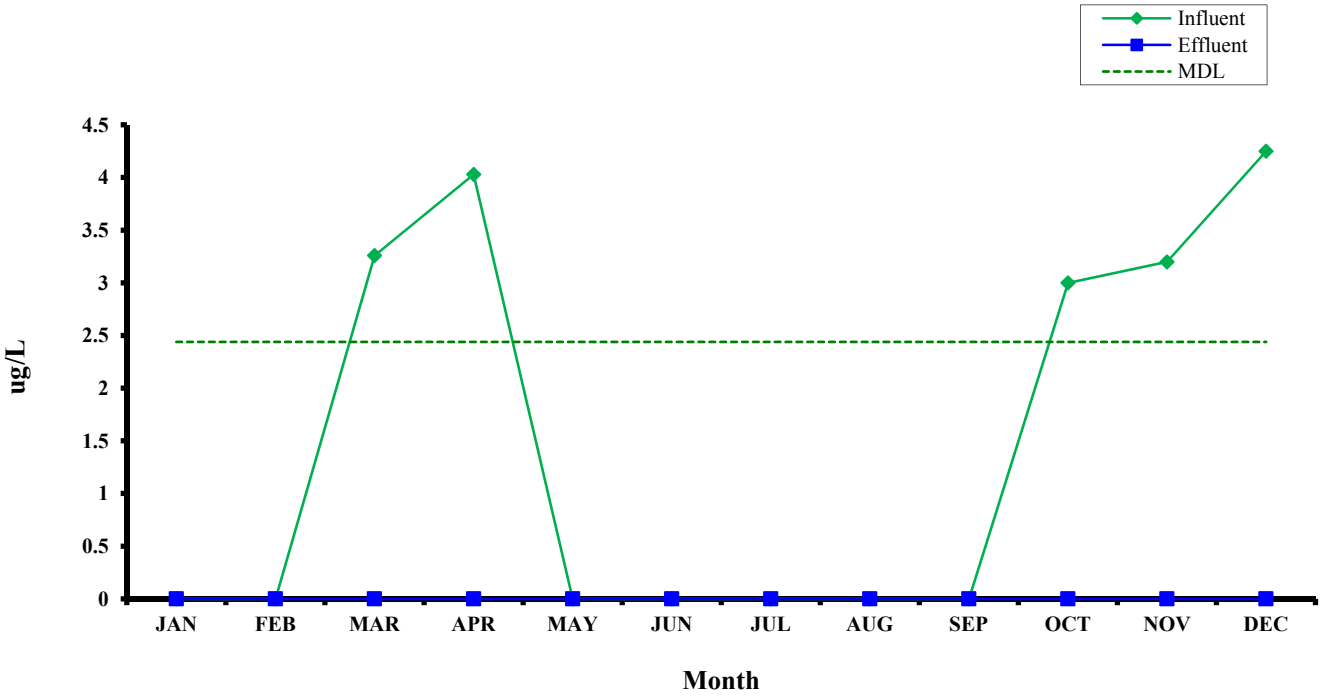

Ammonia-N
2015 Monthly Averages
Effluent
Influent
40.0
35.0
30.0
25.0
20.0
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

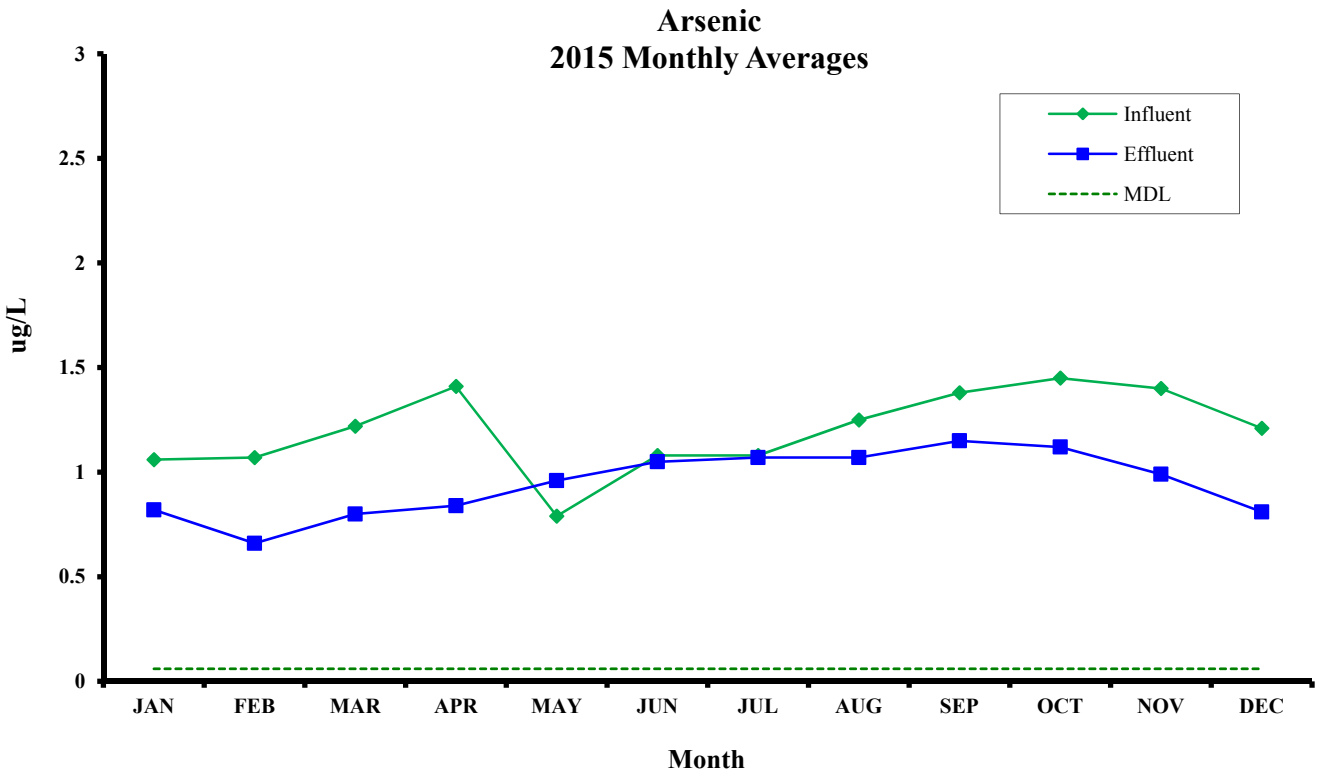

Total Cyanides
2015 Monthly Averages
Effluent
Influent
0.015
0.012
0.009
0.006
0.003
0.000
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

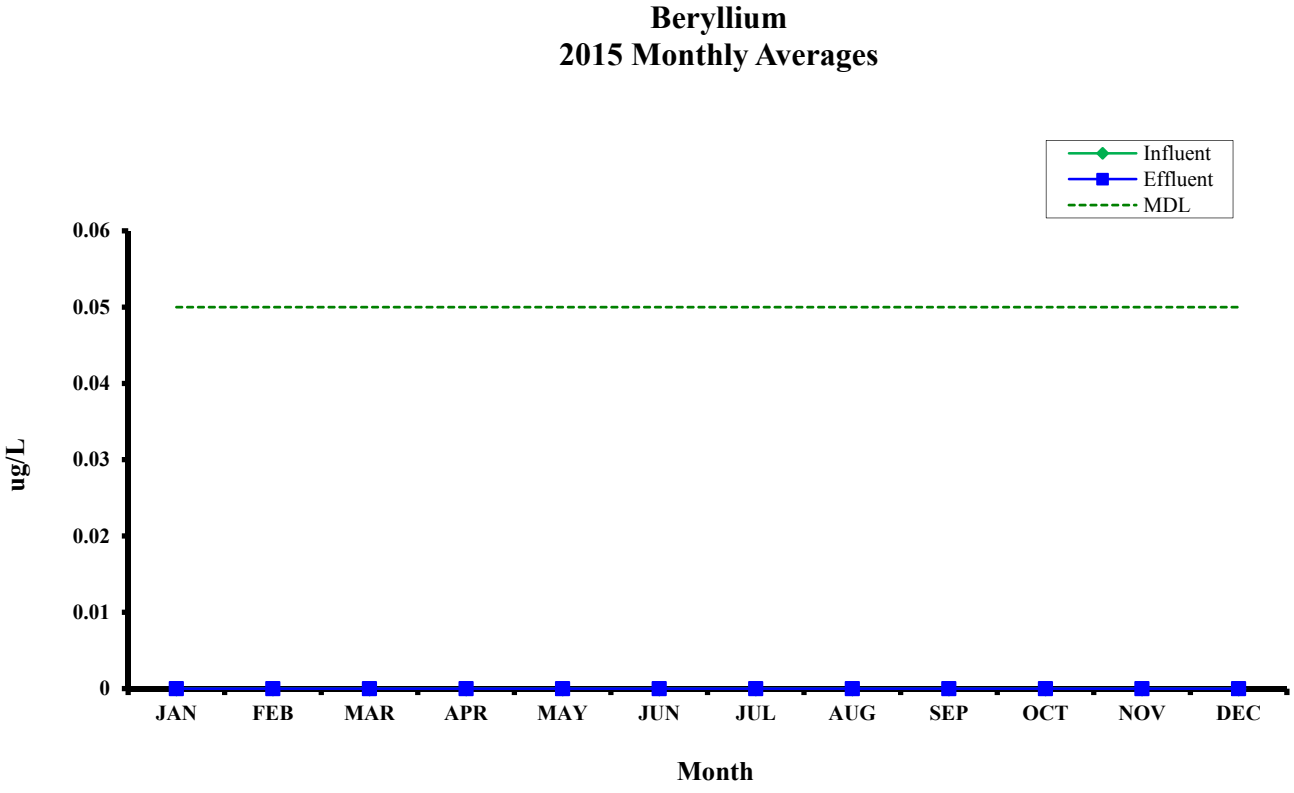
Total Residual Chlorine
2015 Monthly Averages



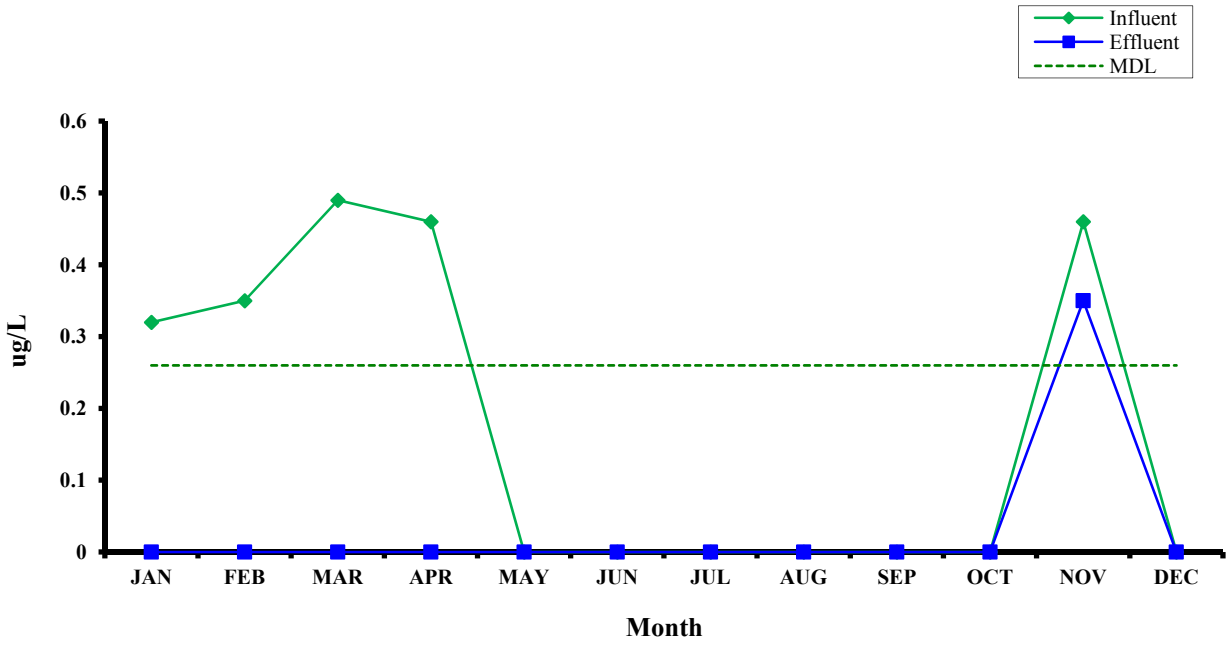
Antimony
2015 Monthly Averages



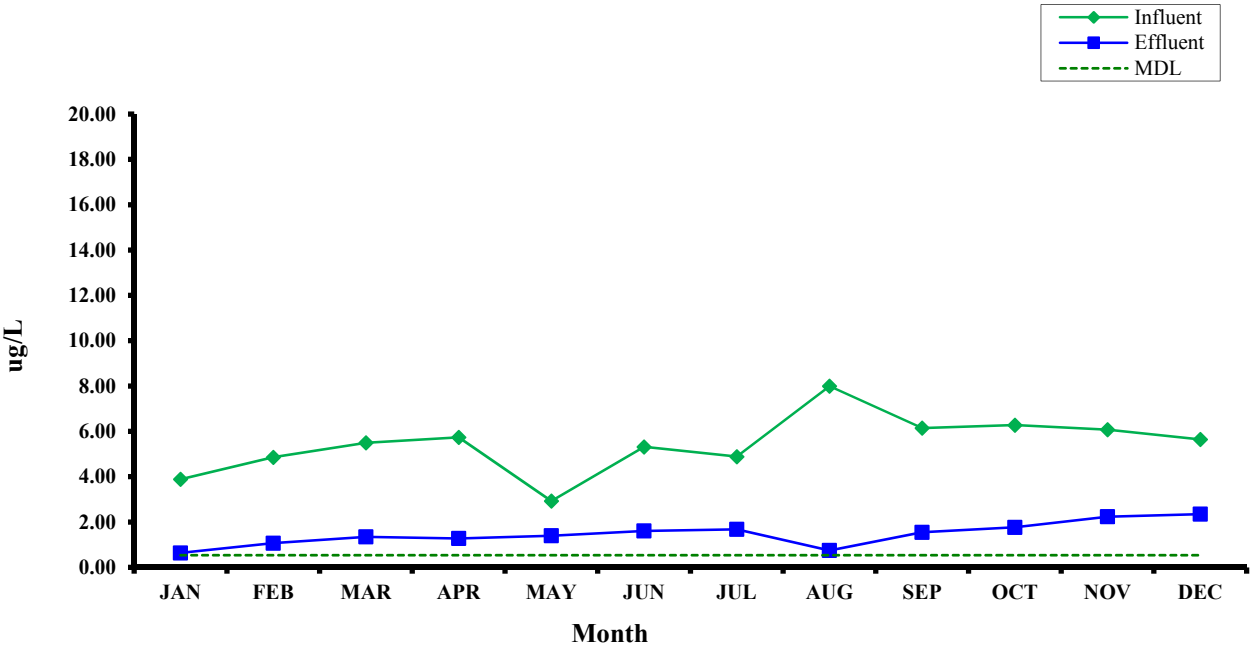

Arsenic
2015 Monthly Averages
Influent
Effluent
MDL
ug/L
3
2.5
2
1.5
1
0.5
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Beryllium
2015 Monthly Averages
Influent
Effluent
MDL
ug/L
0.06
0.05
0.04
0.03
0.02
0.01
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

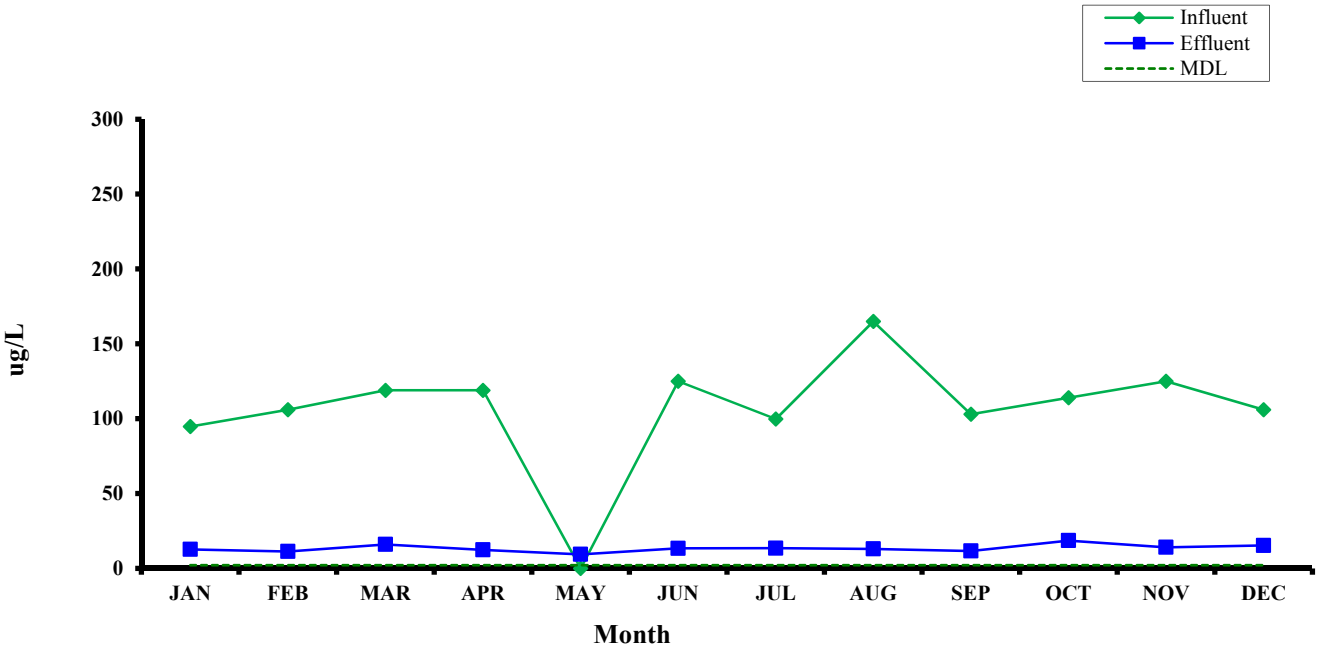
Cadmium
2015 Monthly Averages



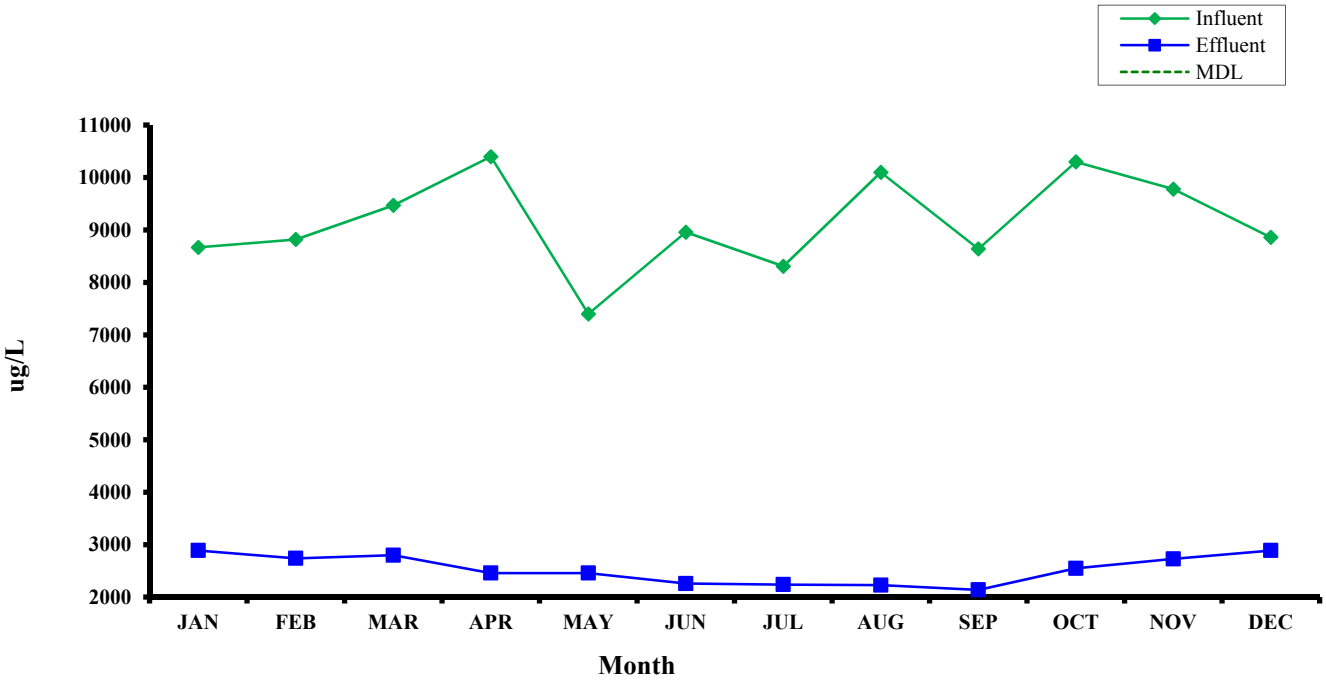
Chromium
2015 Monthly Averages



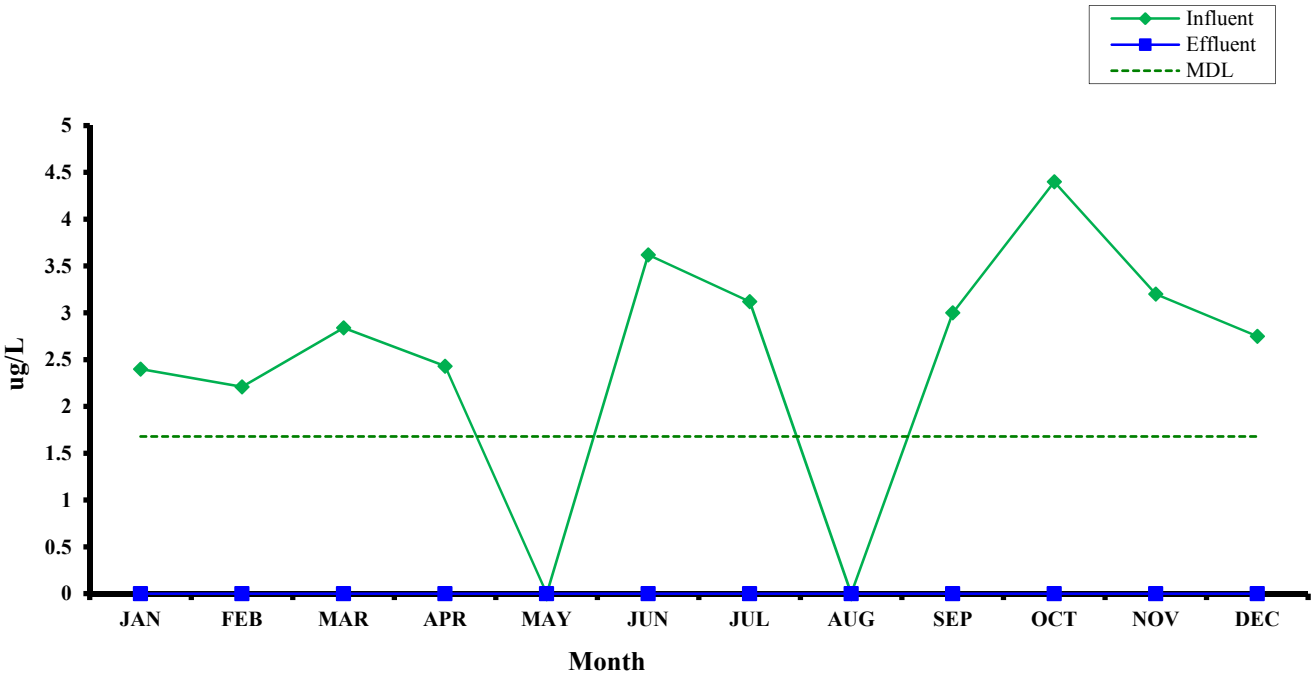
Copper
2015 Monthly Averages



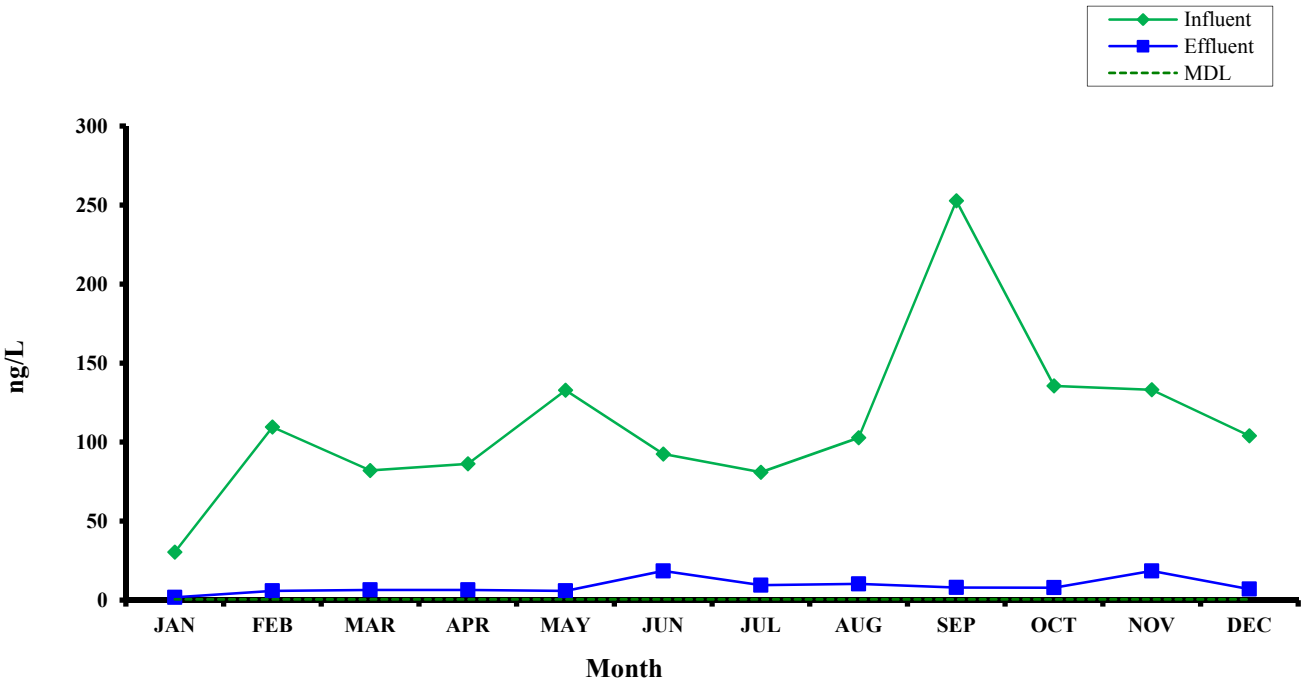
Iron
2015 Monthly Averages



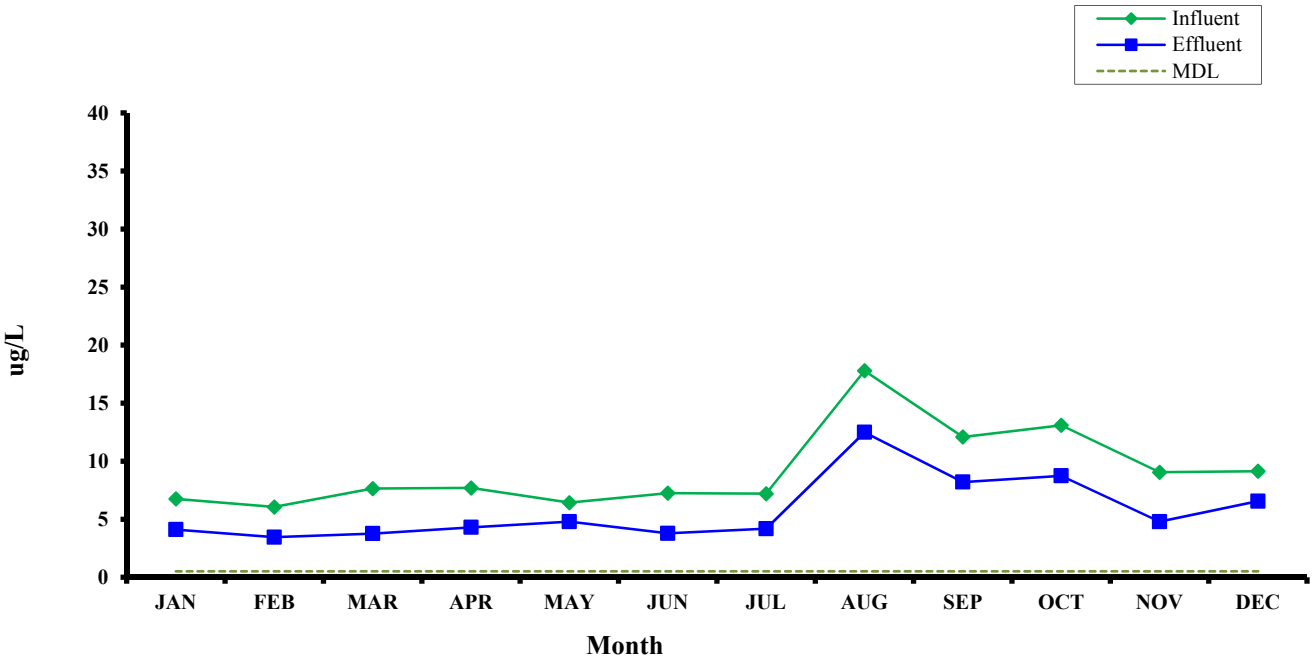
Lead
2015 Monthly Averages



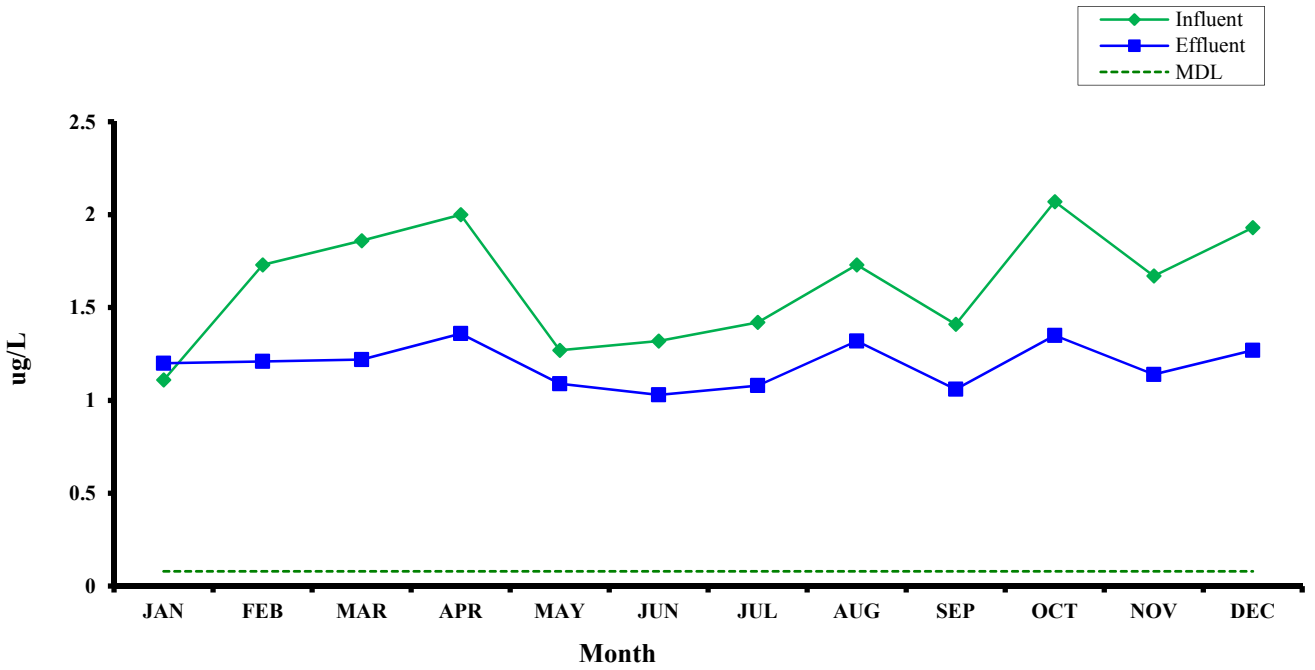
Mercury
2015 Monthly Averages



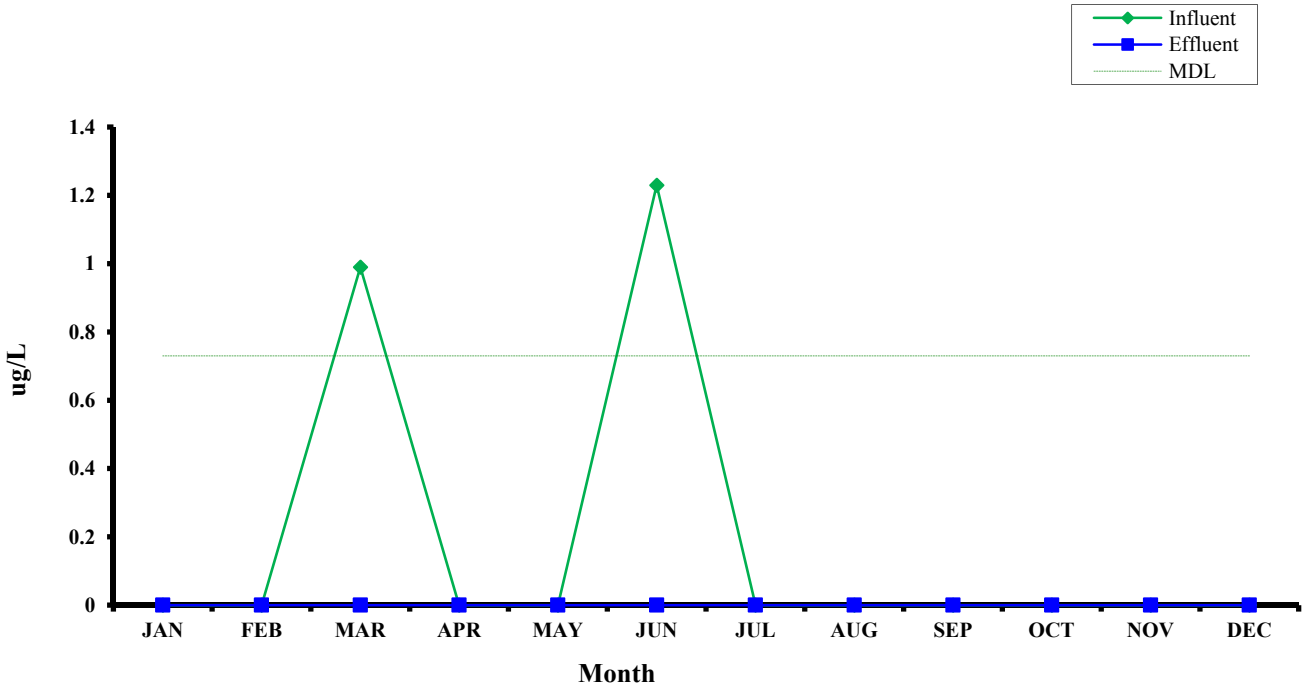
Nickel
2015 Monthly Averages



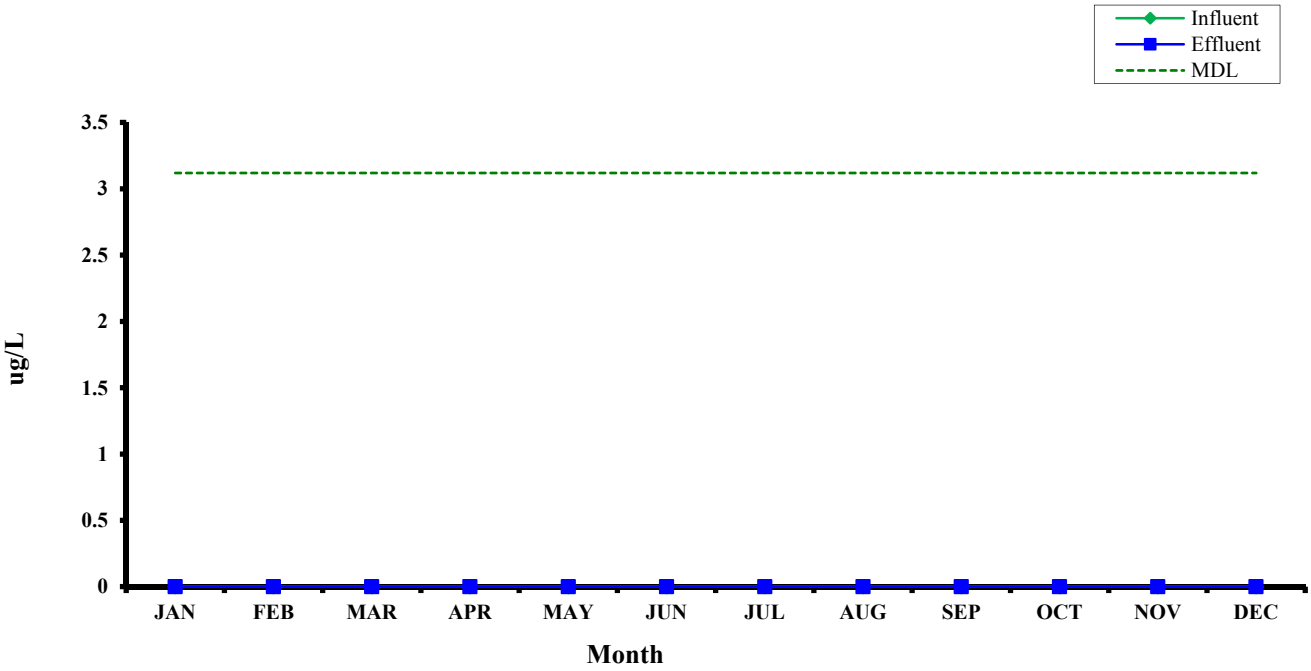
Selenium
2015 Monthly Averages



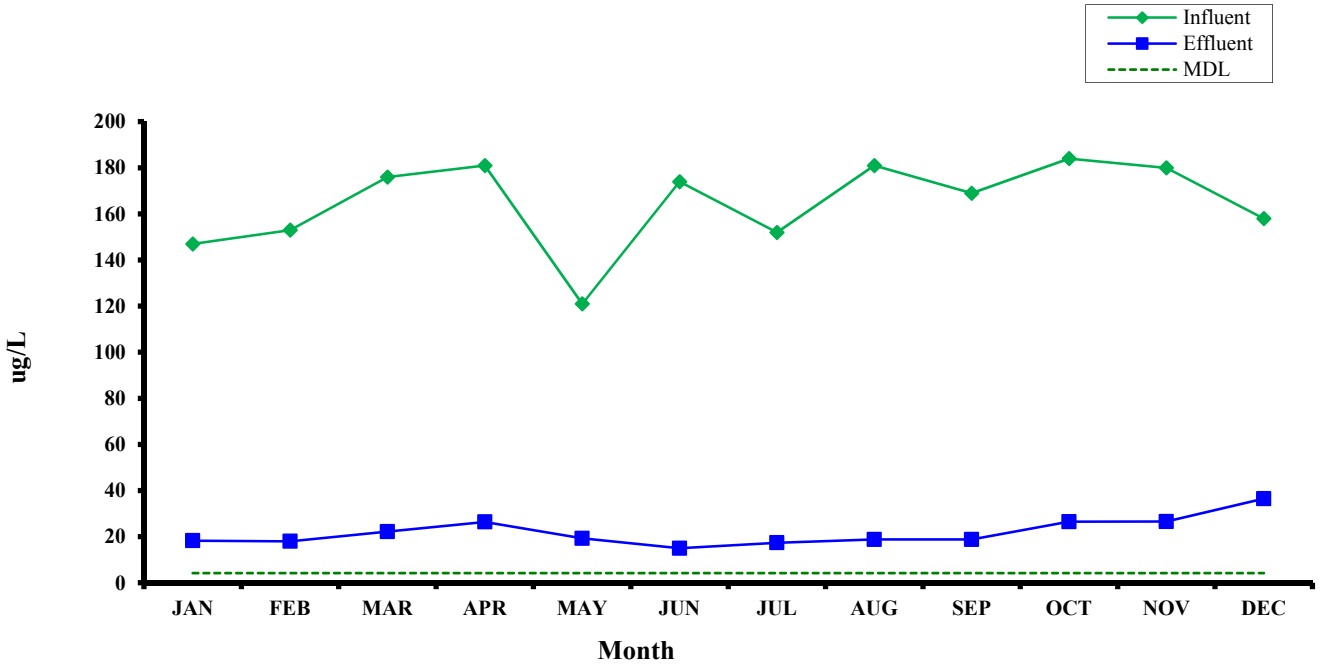
Silver
2015 Monthly Averages



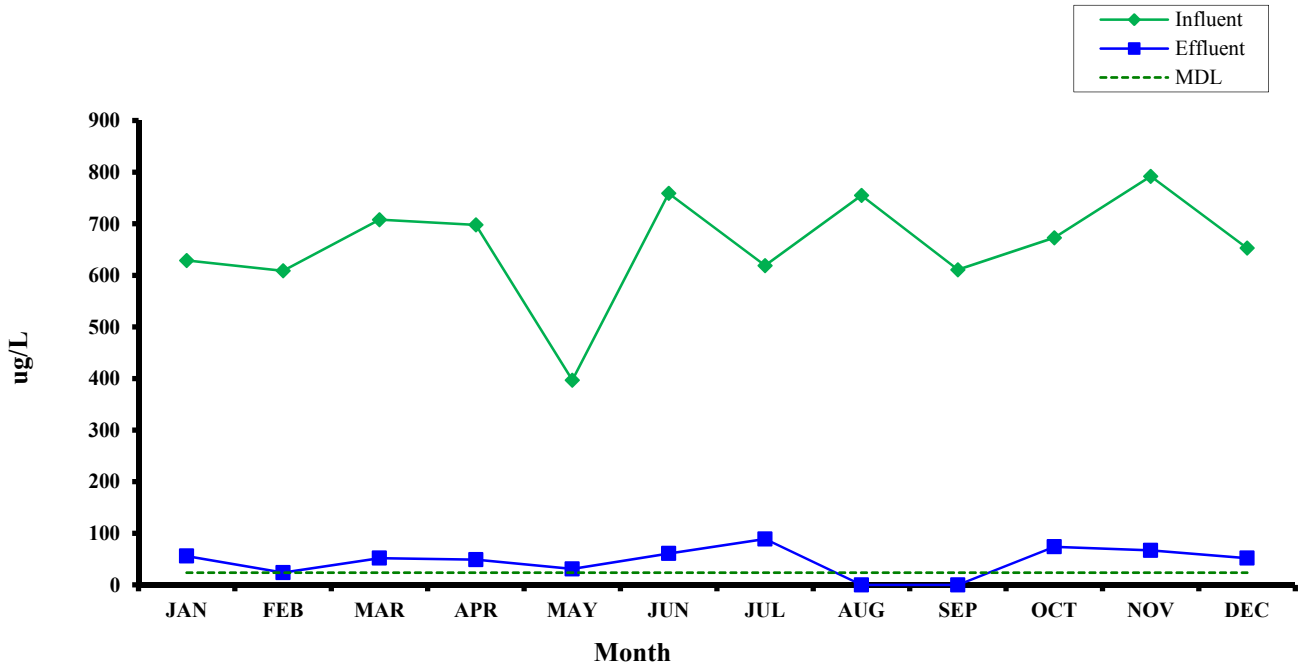
Thallium
2015 Monthly Averages



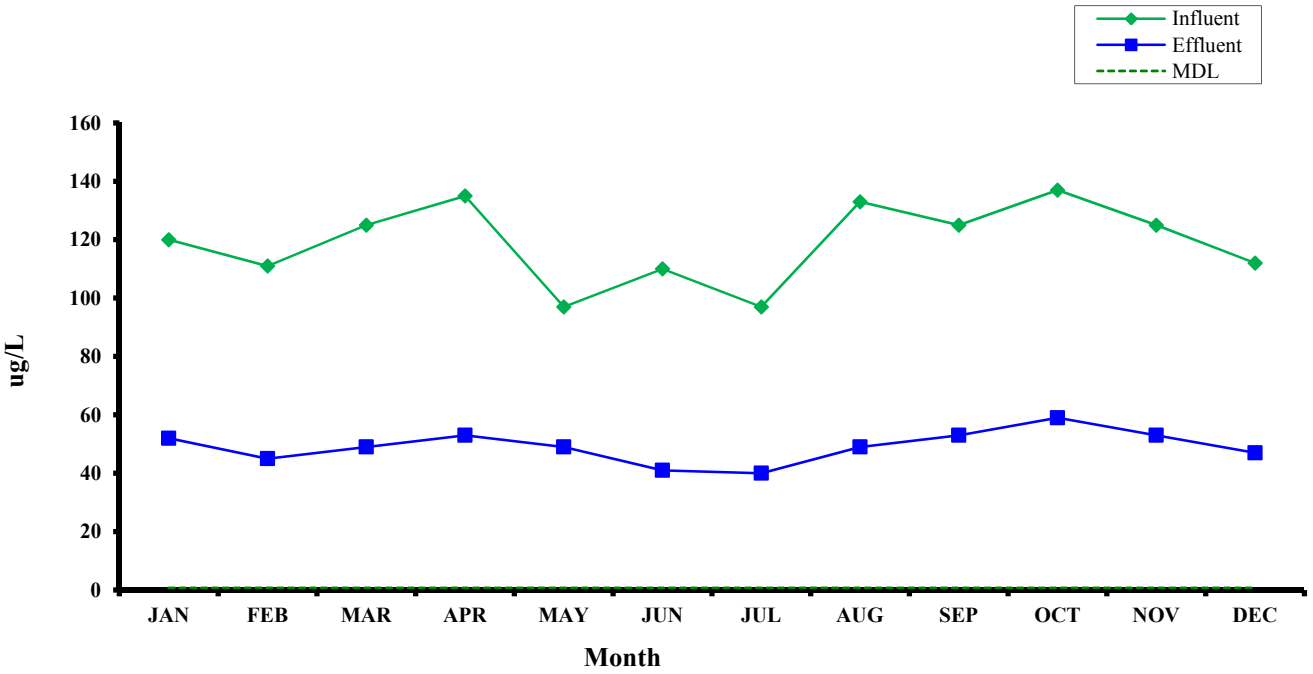
Zinc
2015 Monthly Averages



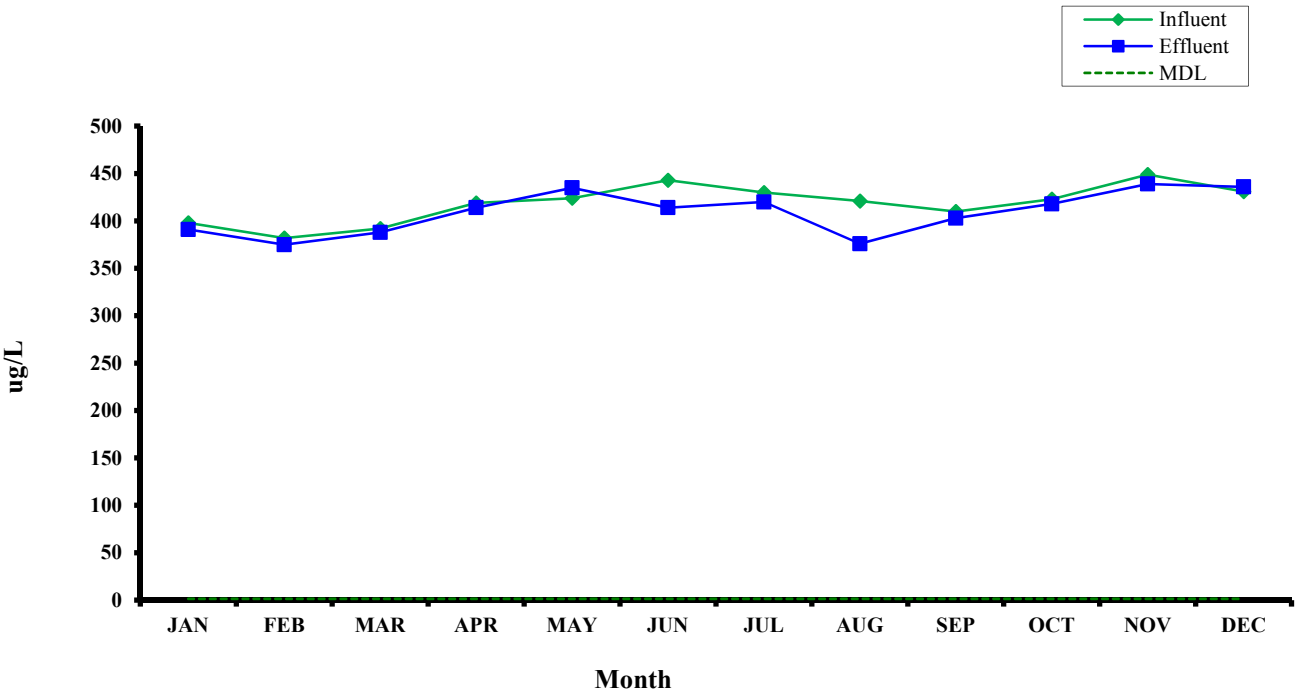
Aluminum
2015 Monthly Averages



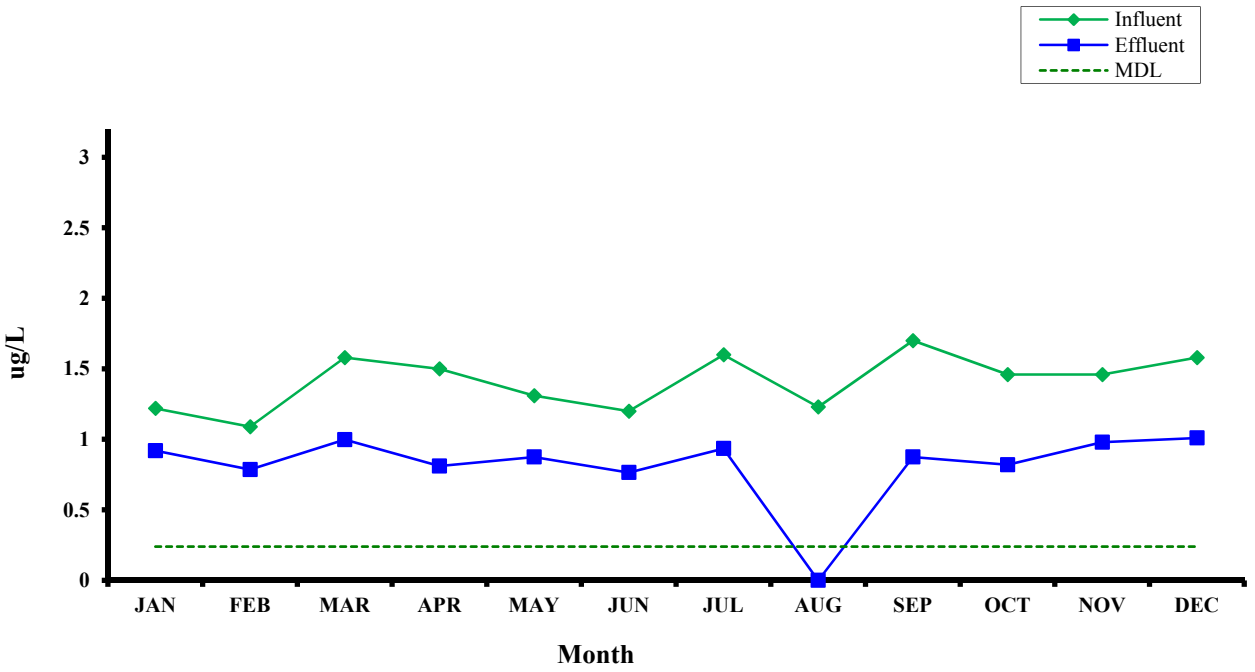
Barium
2015 Monthly Averages



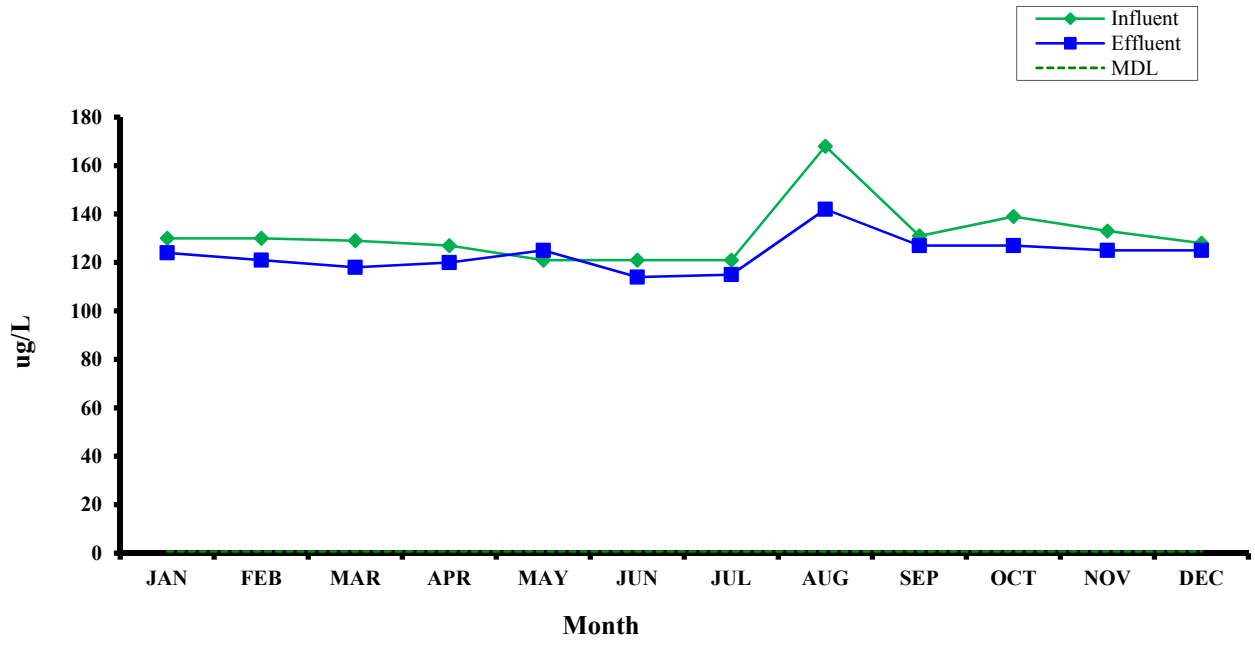
Boron
2015 Monthly Averages



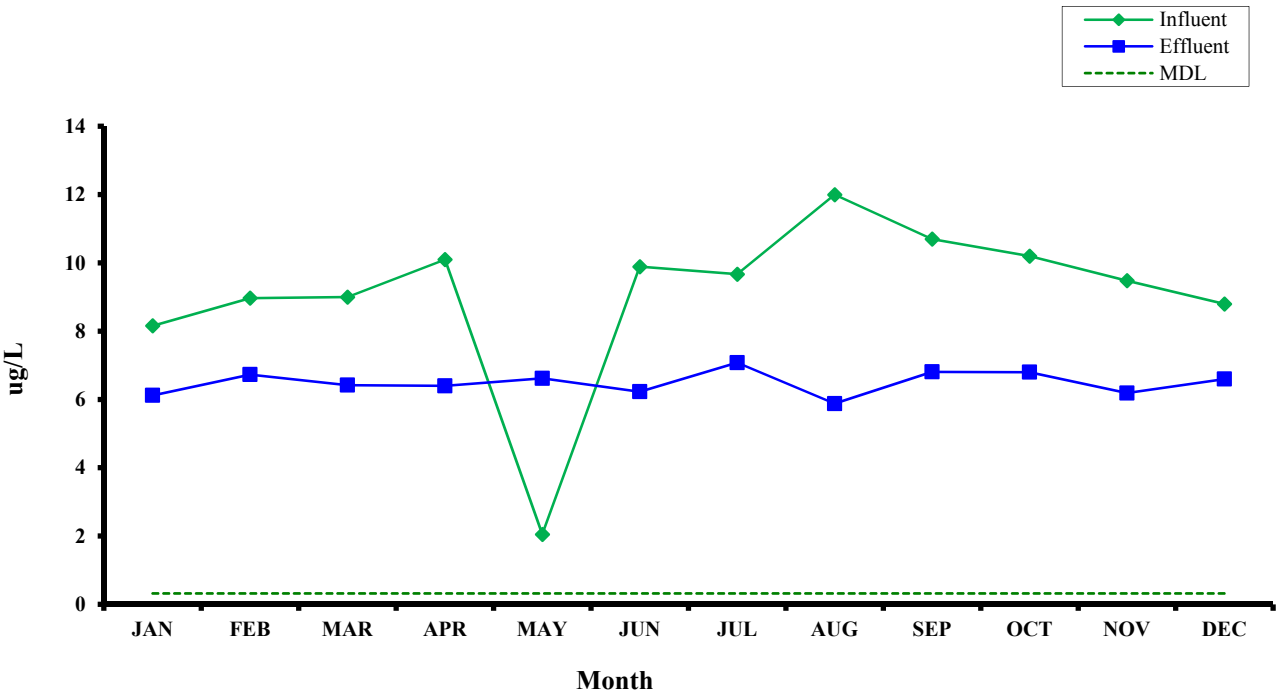
Cobalt
2015 Monthly Averages



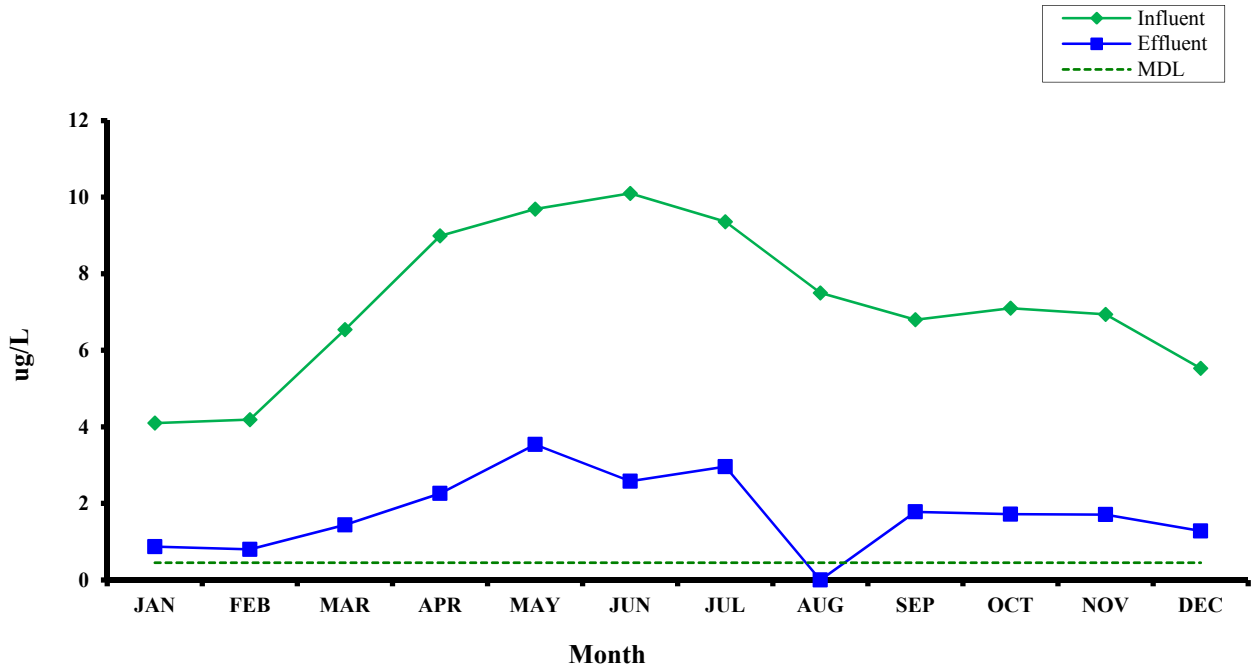
Manganese
2015 Monthly Averages



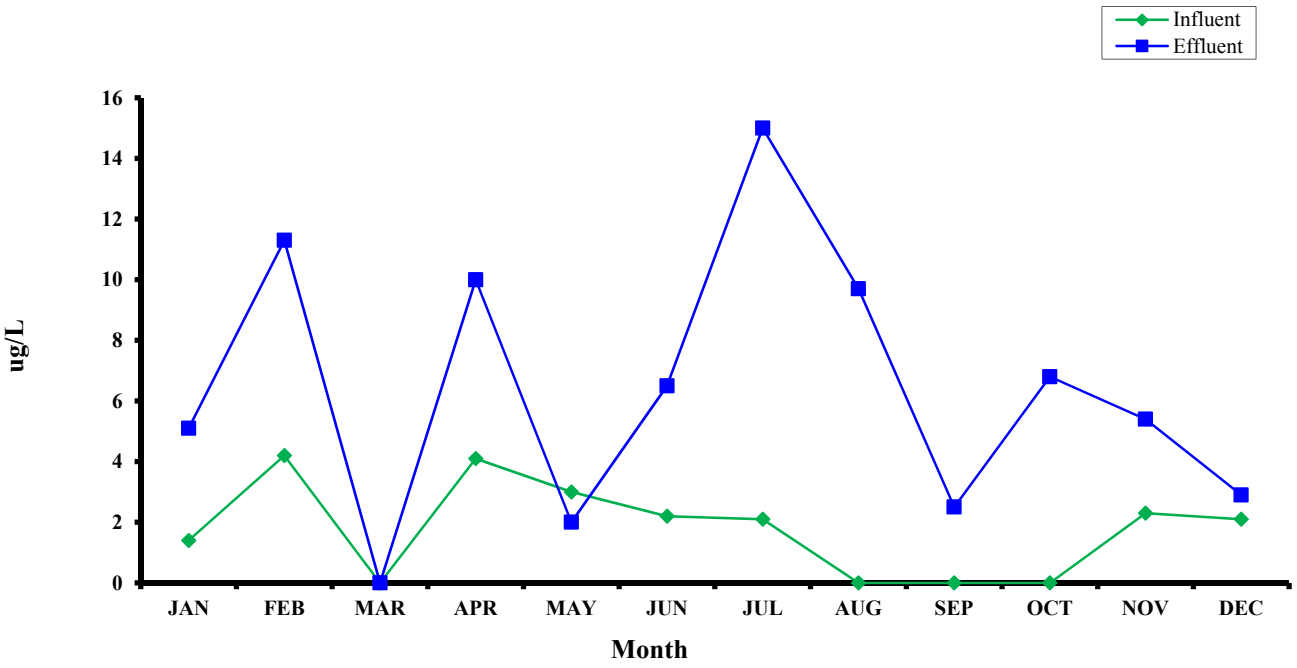
Molybdenum
2015 Monthly Averages



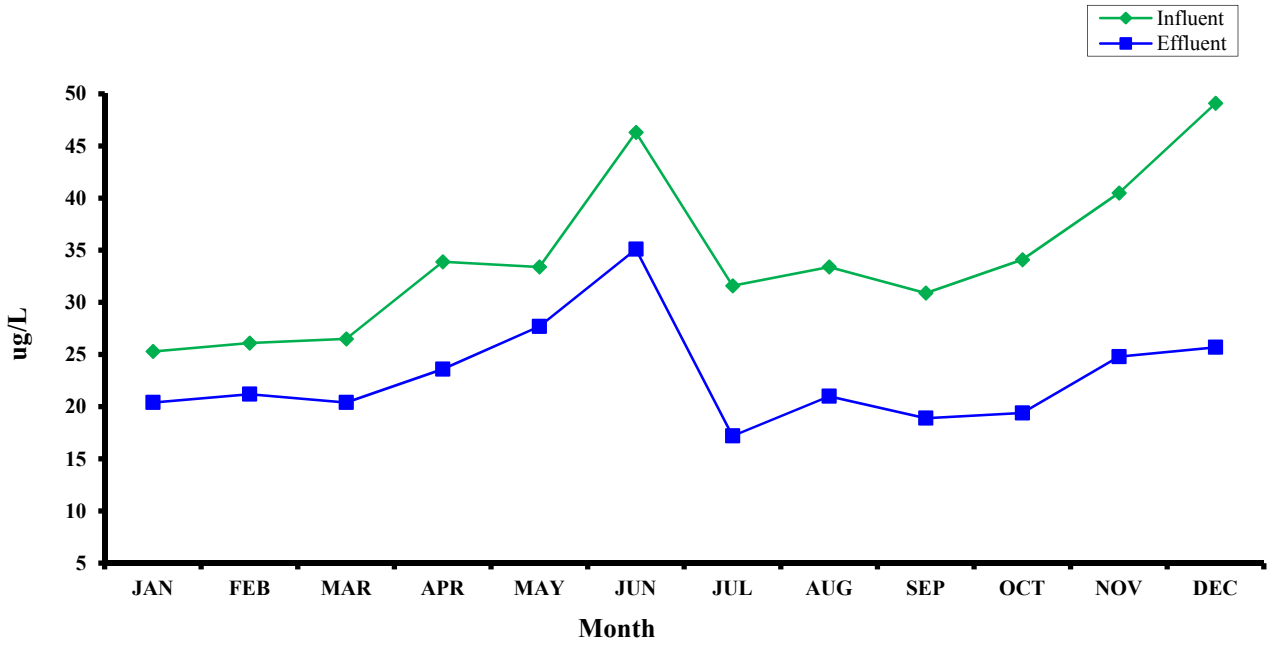
Vanadium
2015 Monthly Average



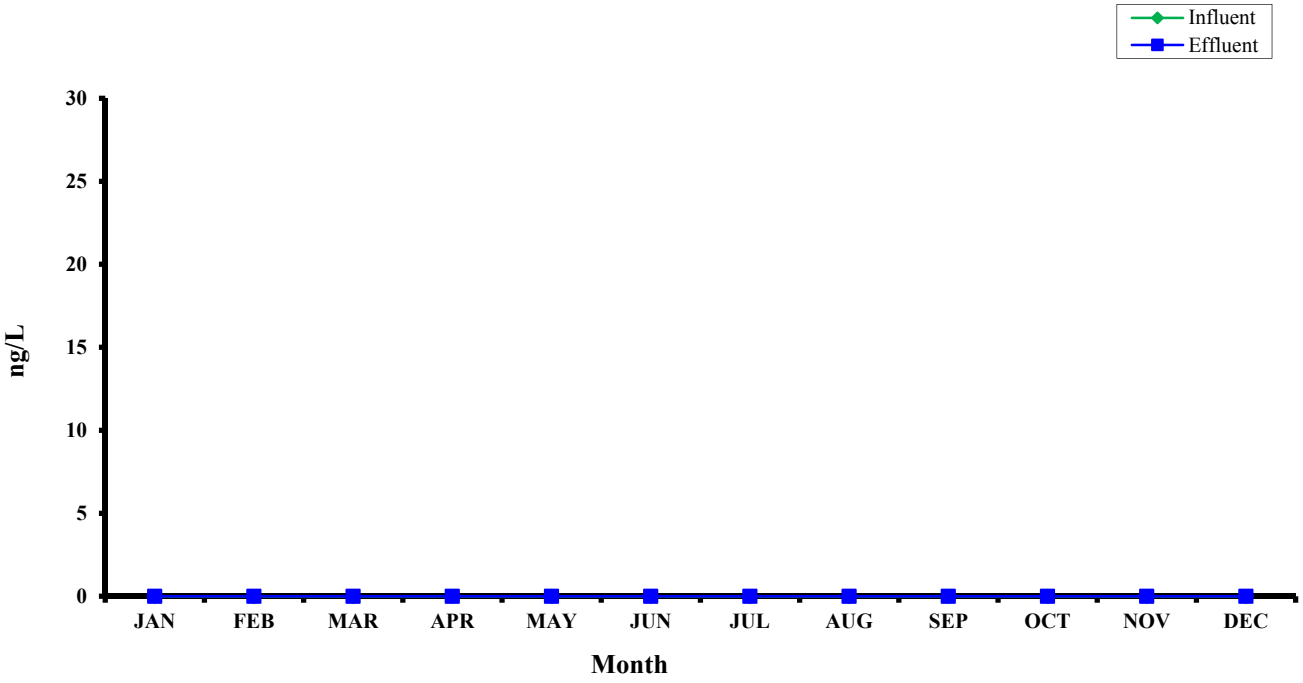
Purgeables Organic Compunds
2015 Monthly Averages



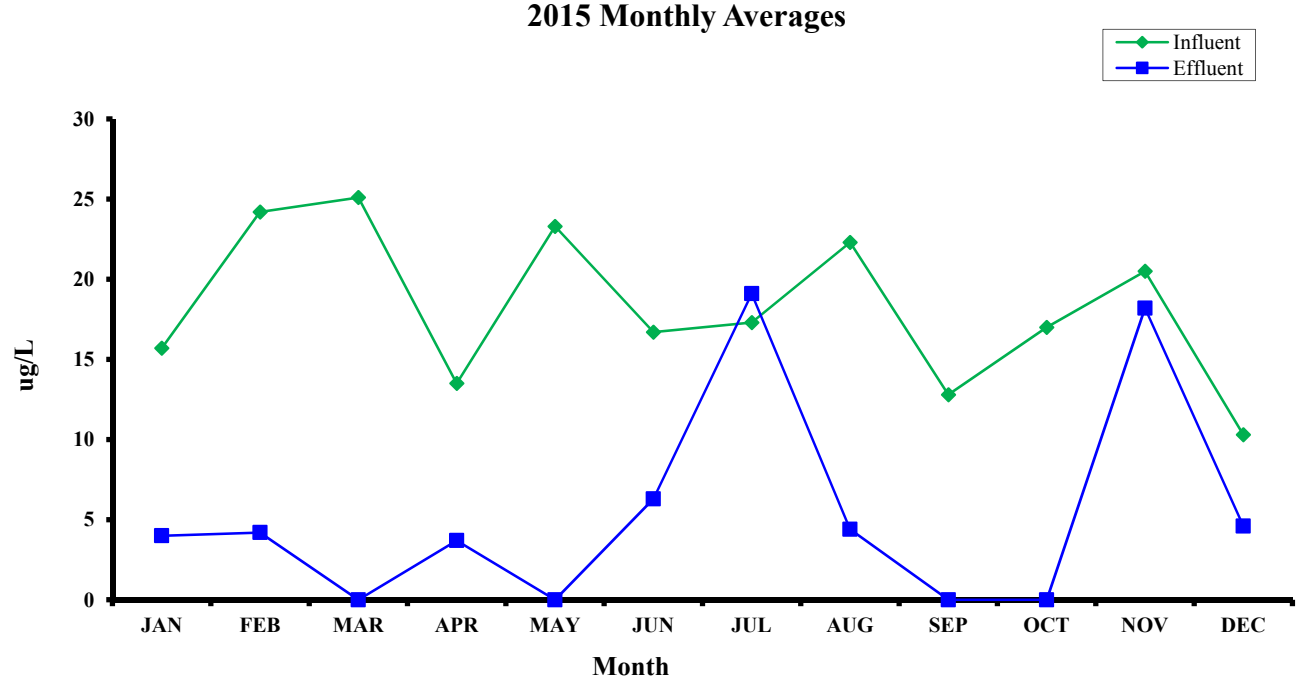
Phenols
2015 Monthly Averages



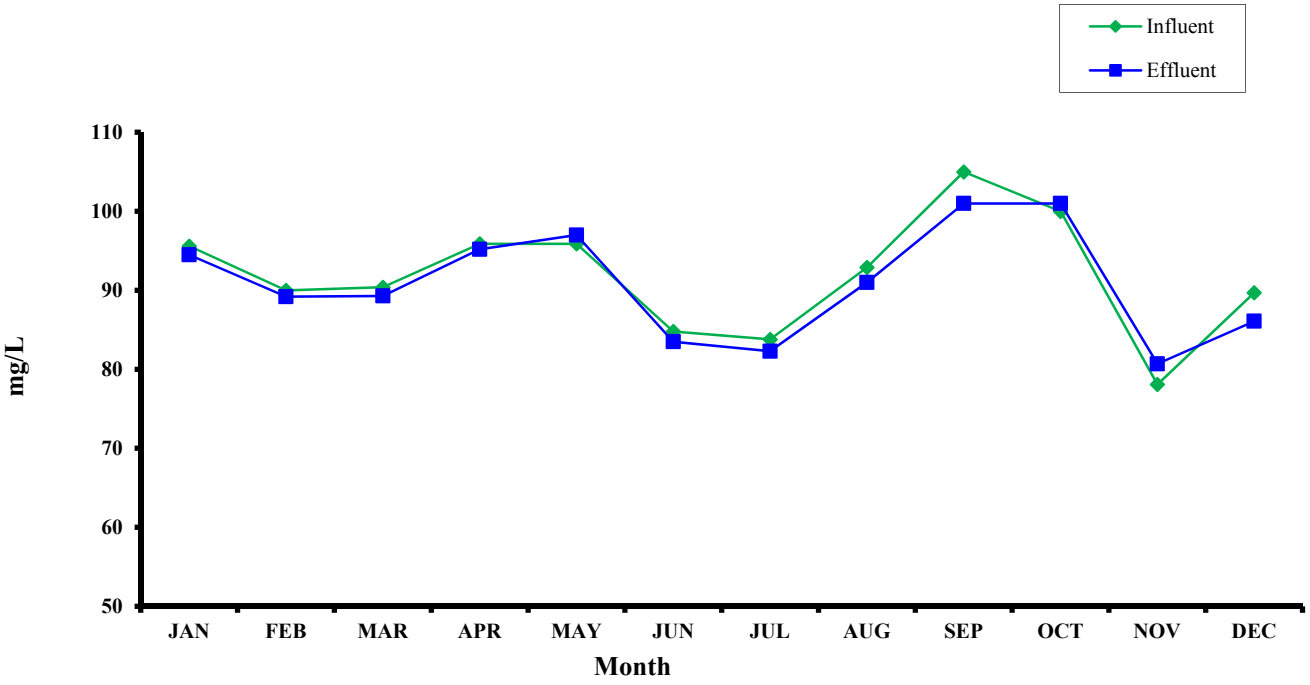
Total Chlorinated Hydrocarbons
2015 Monthly Averages



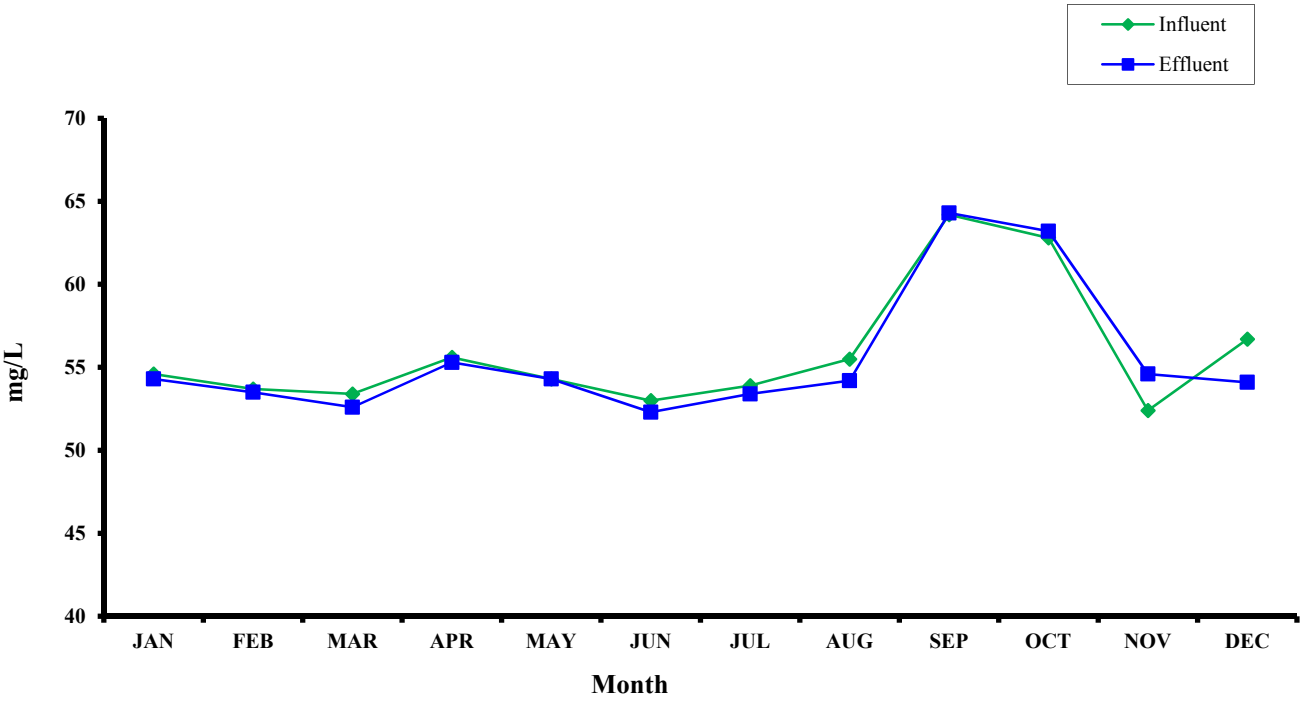
Base Neutrals
2015 Monthly Averages



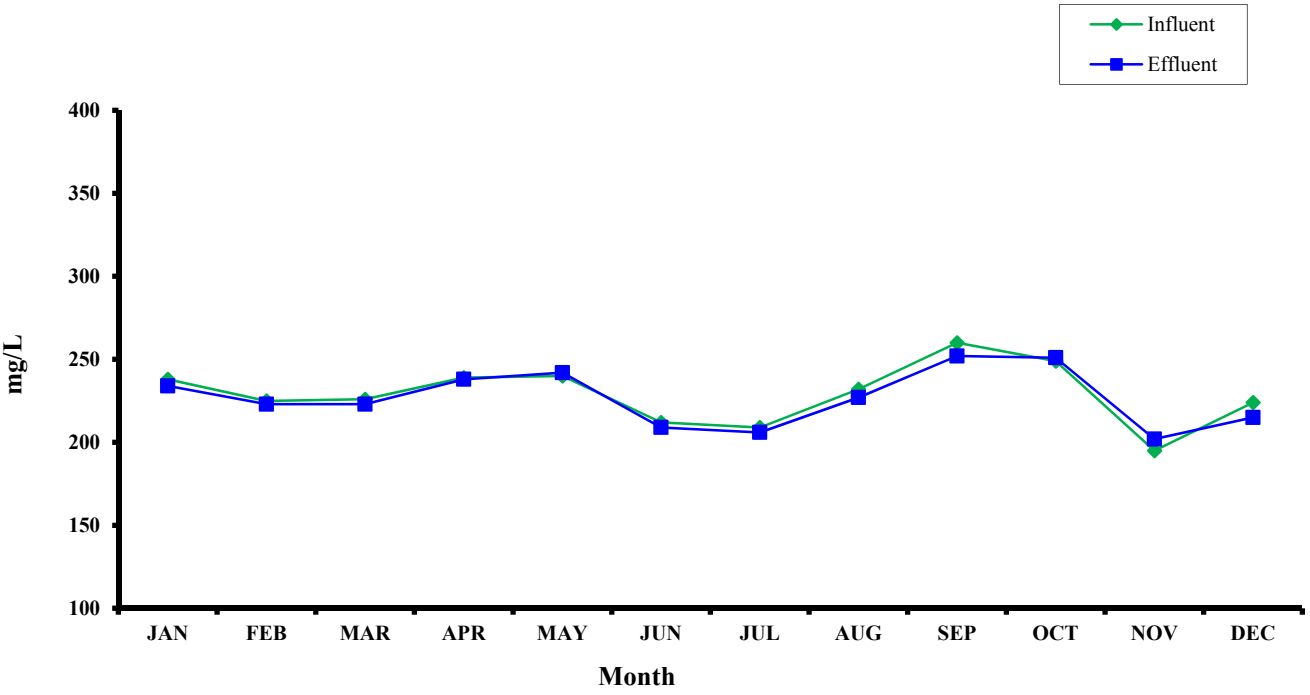
Calcium
2015 Monthly Averages



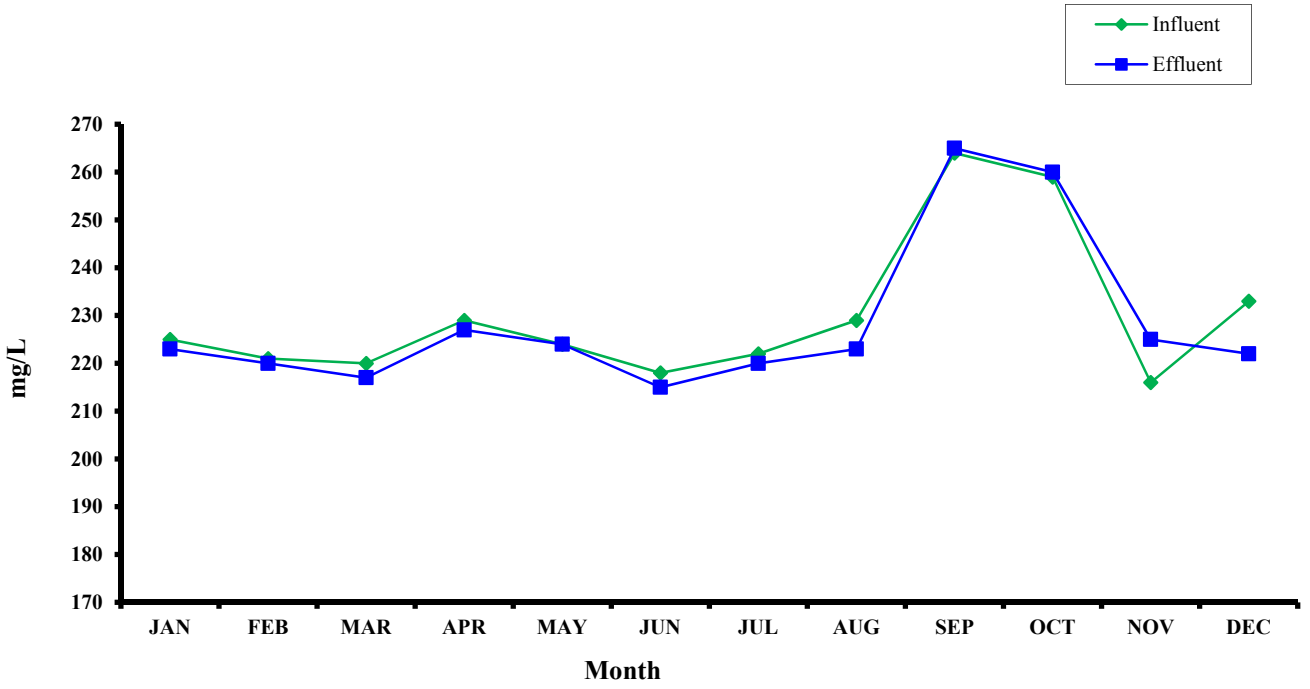
Magnesium
2015 Monthly Averages



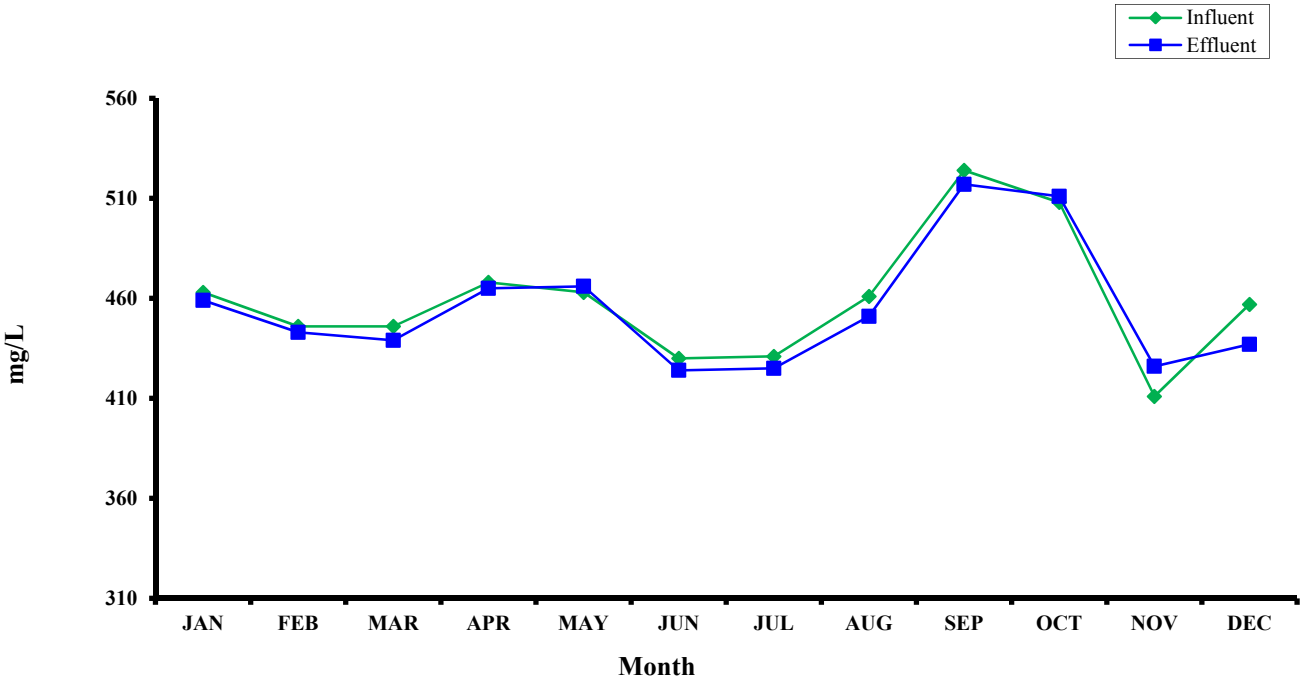
Calcium Hardness
2015 Monthly Averages



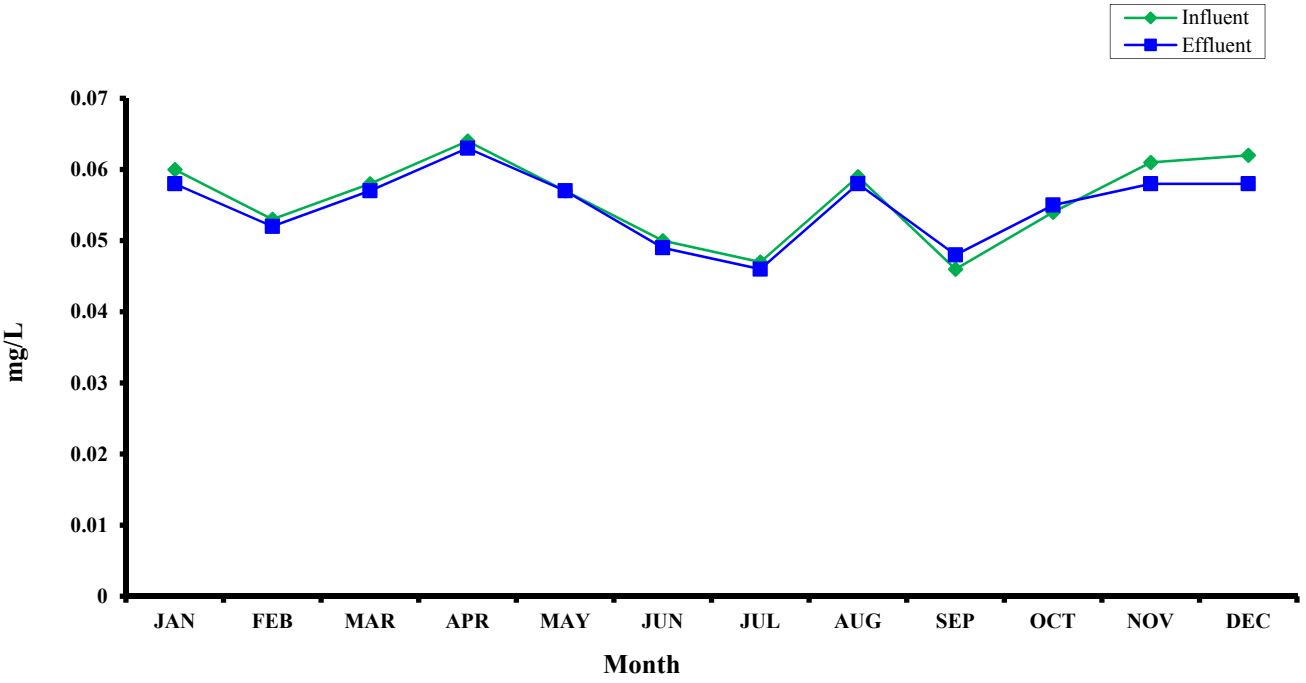
Magnesium Hardness
2015 Monthly Averages



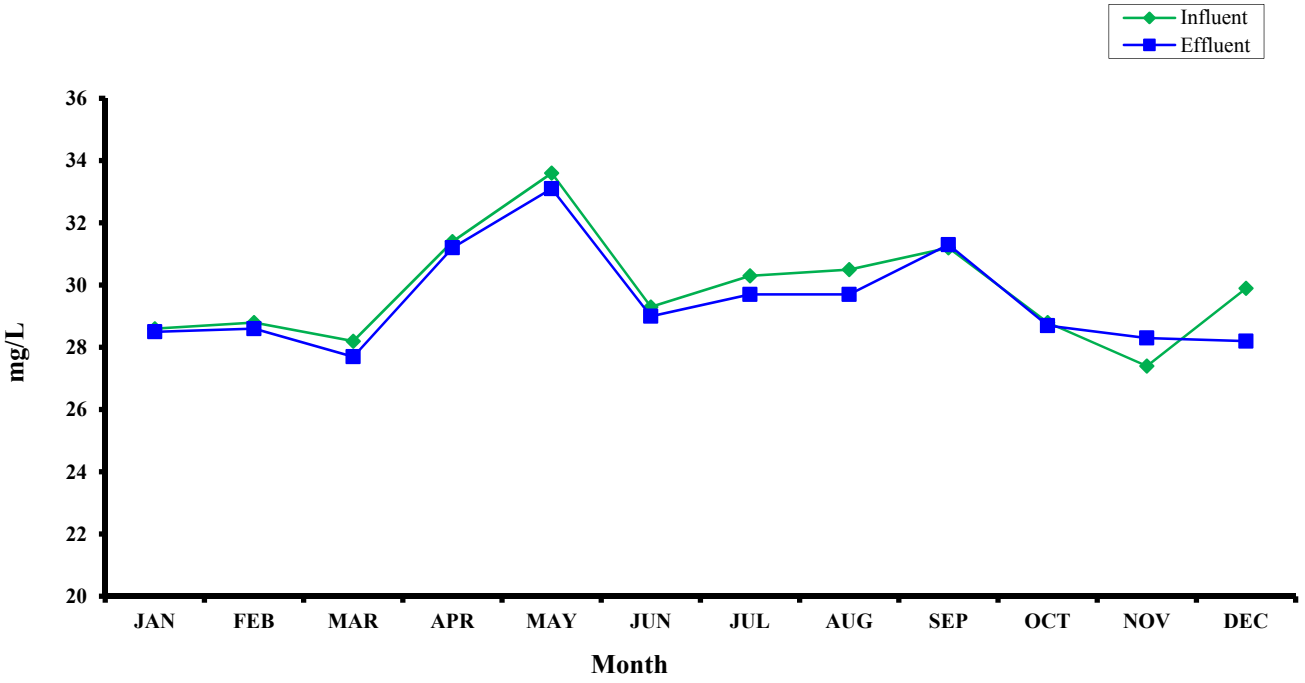
Total Hardness
2015 Monthly Averages



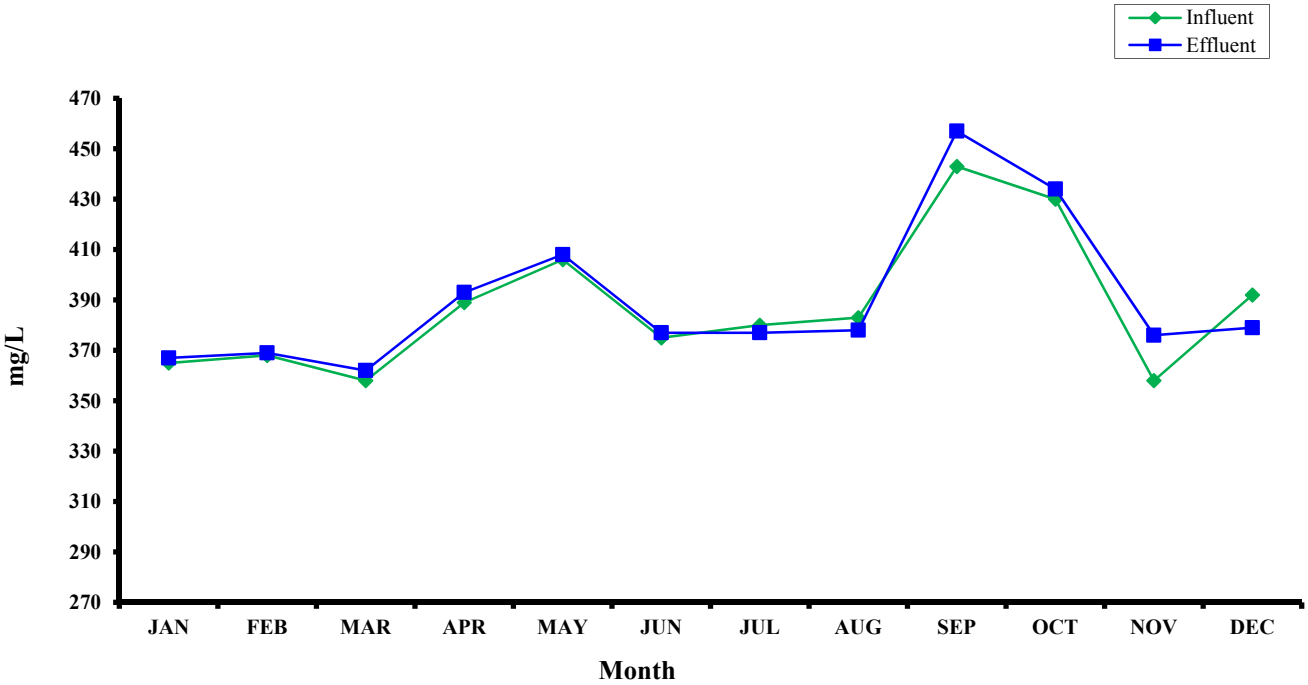
Lithium
2015 Monthly Averages



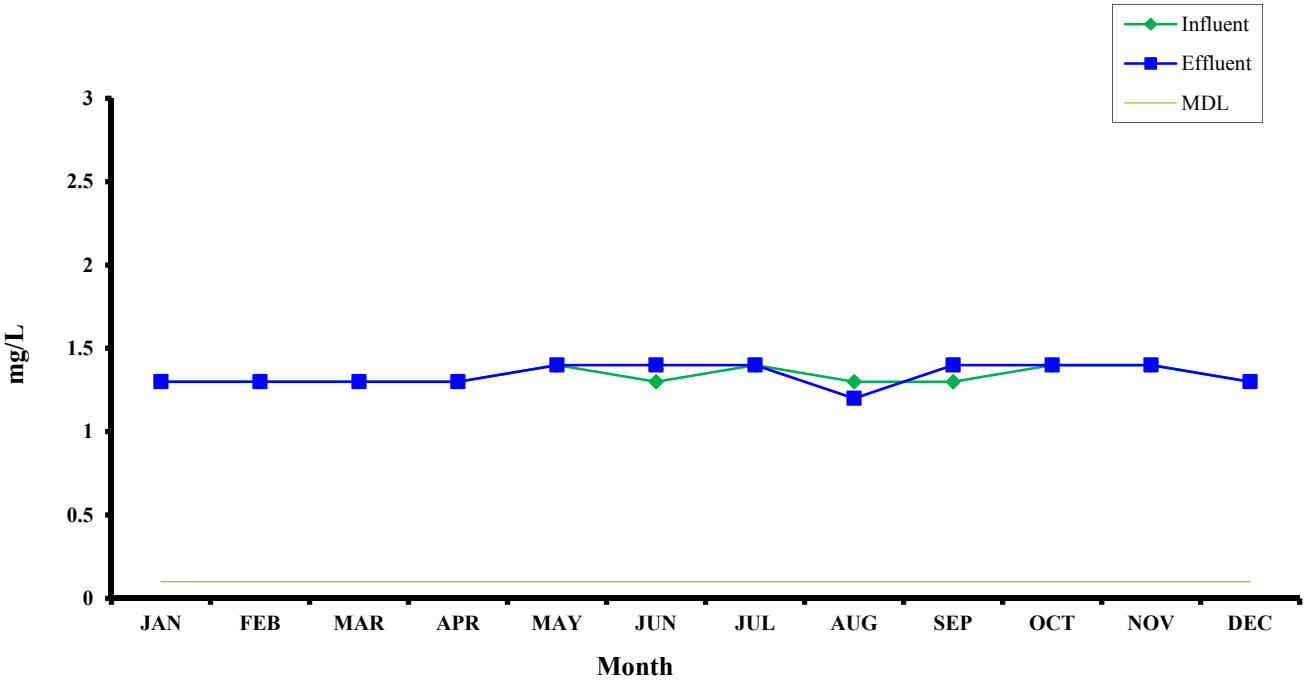
Potassium
2015 Monthly Averages



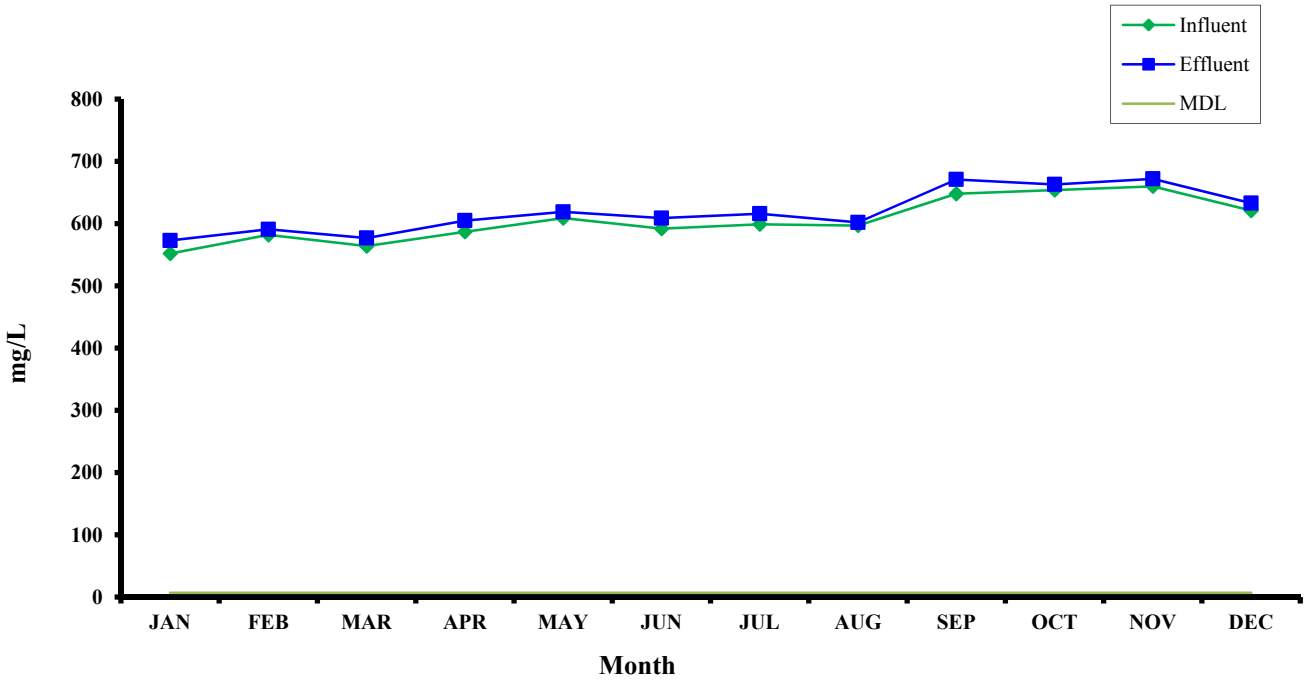
Sodium
2015 Monthly Averages



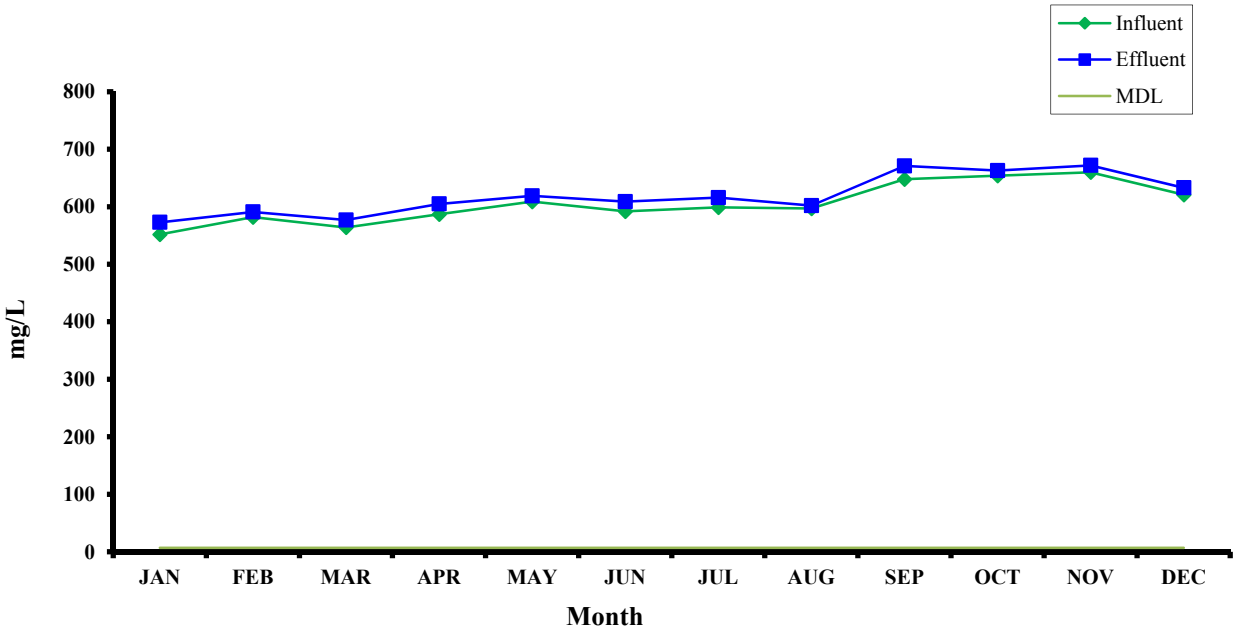
Bromide
2015 Monthly Averages



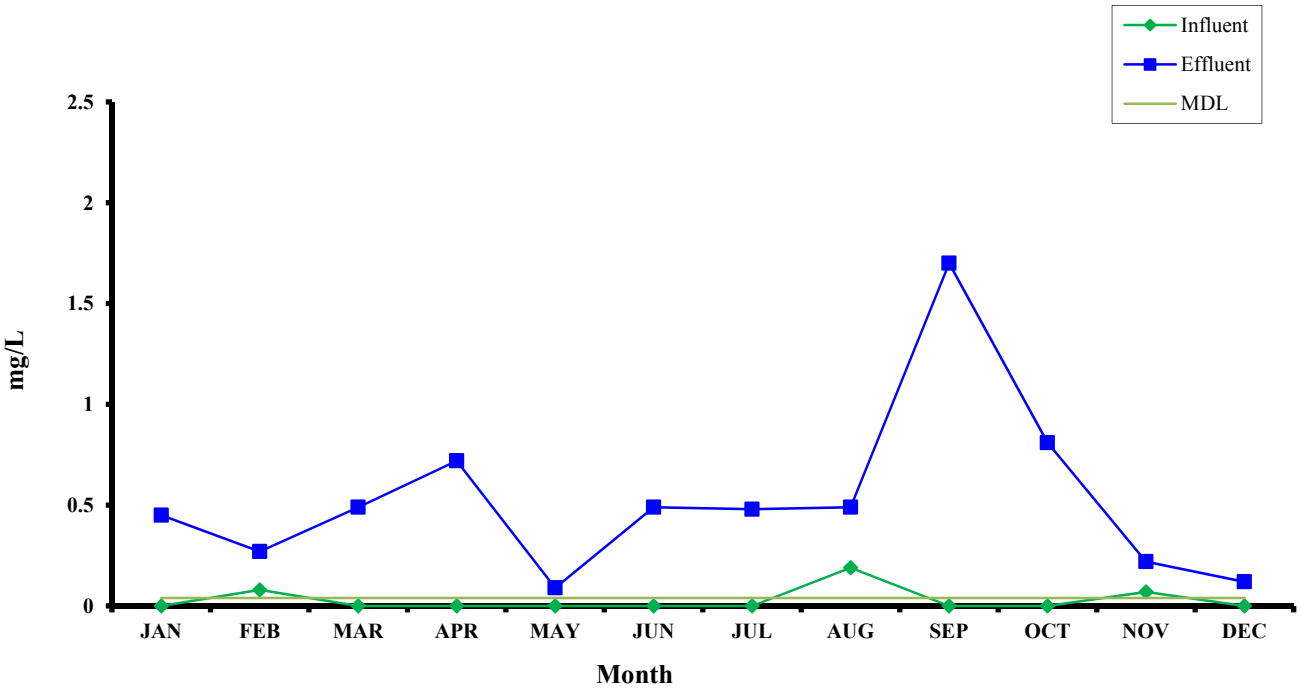
Chloride
2015 Monthly Averages



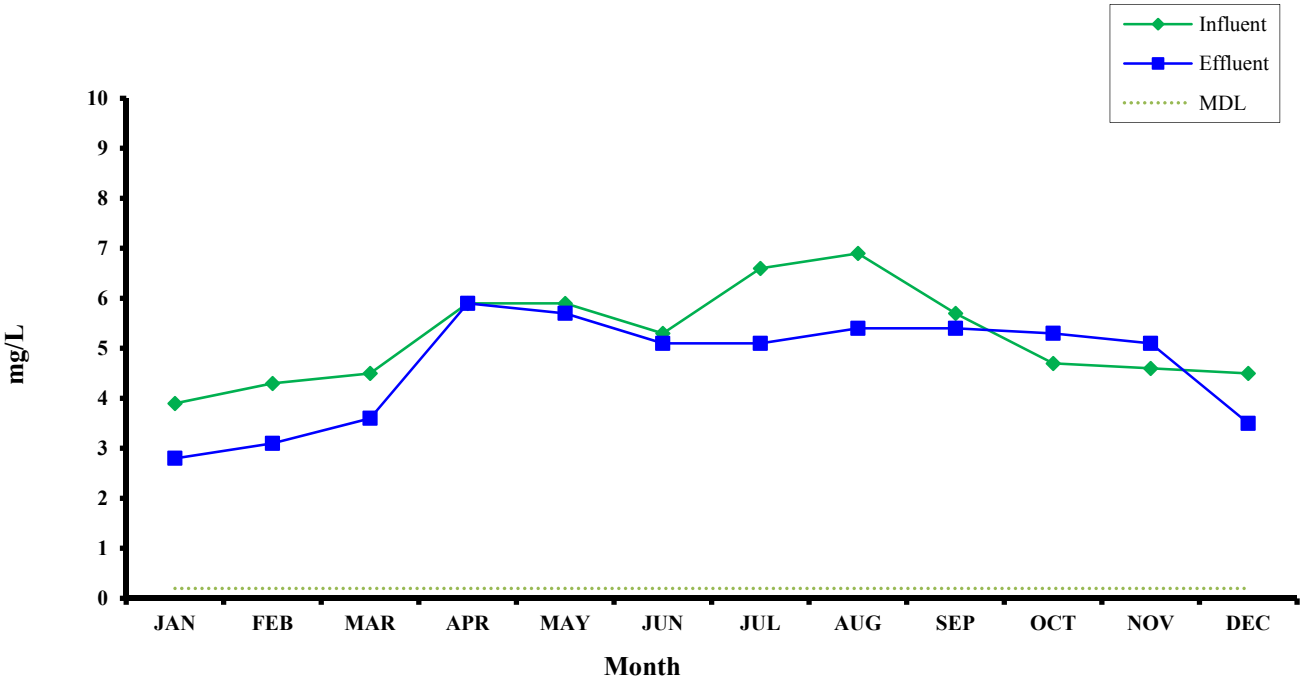
Chloride
2015 Monthly Averages



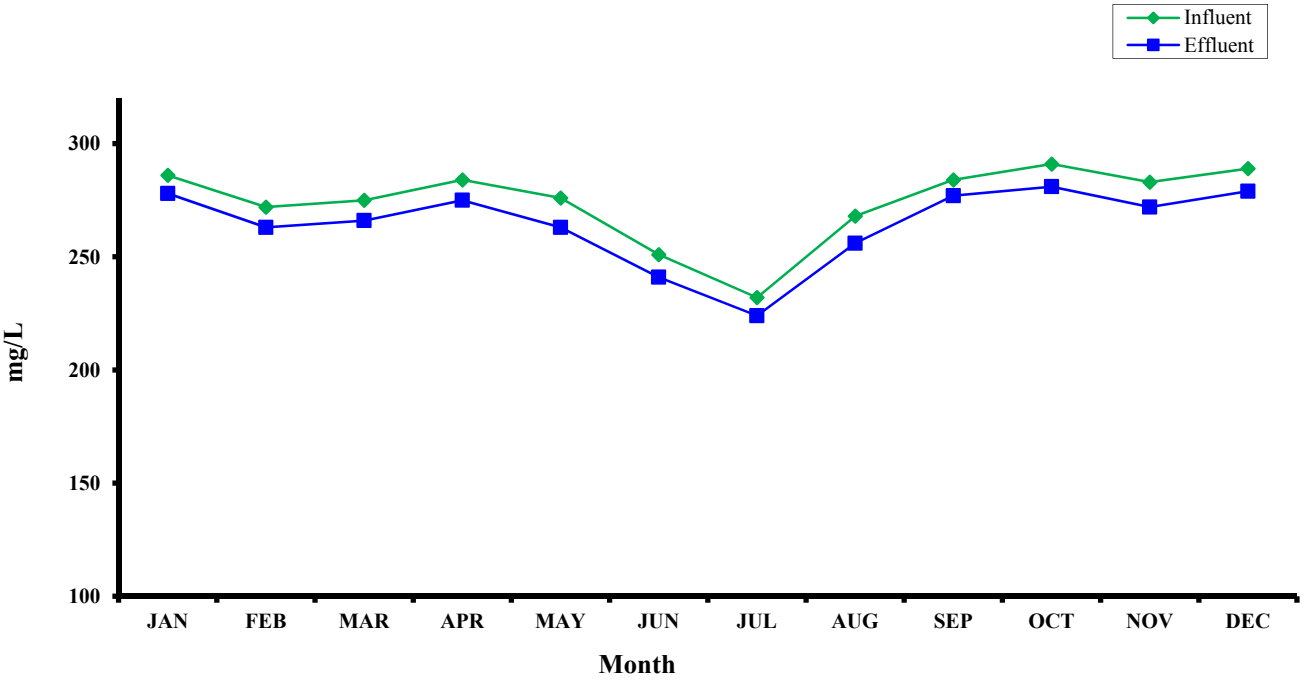
Nitrate
2015 Monthly Averages



O-Phosphate
2015 Monthly Averages



Sulfate
2015 Monthly Averages



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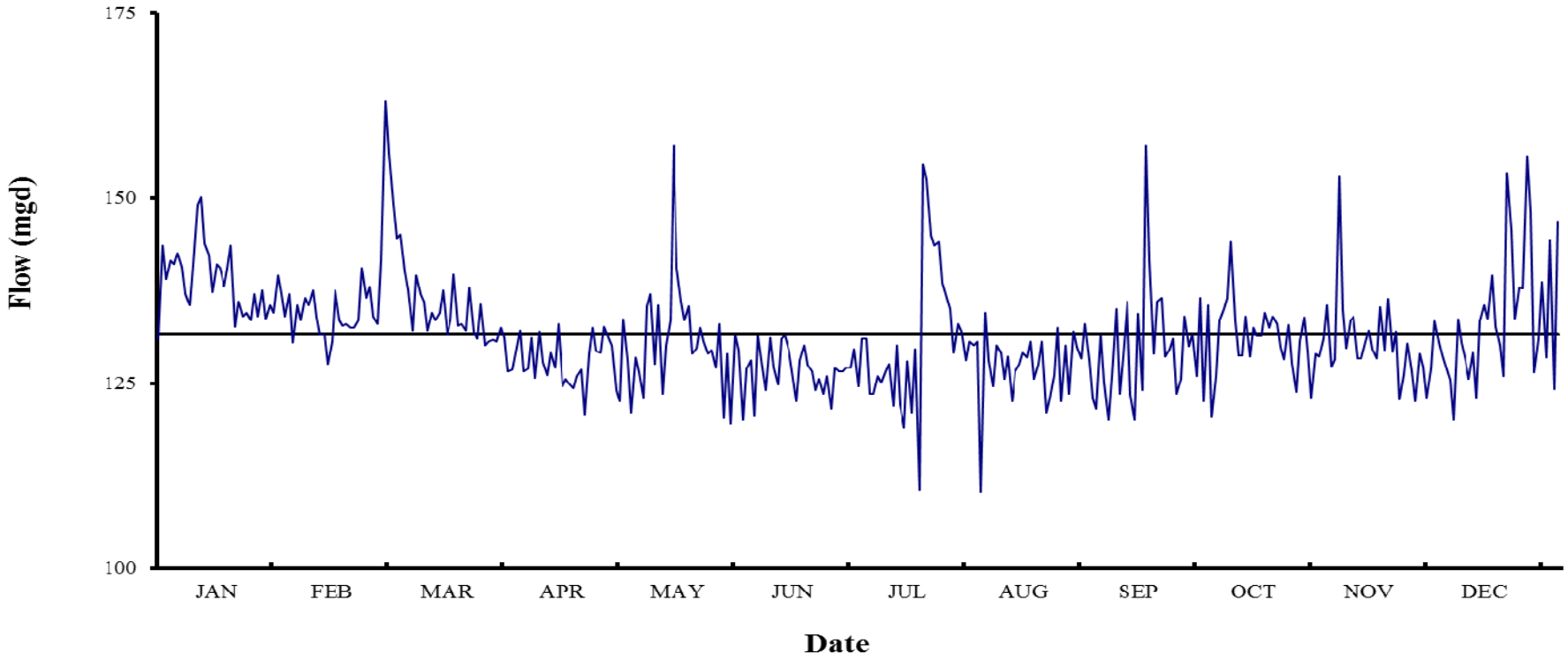
E. Daily Values of Selected Parameters

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.

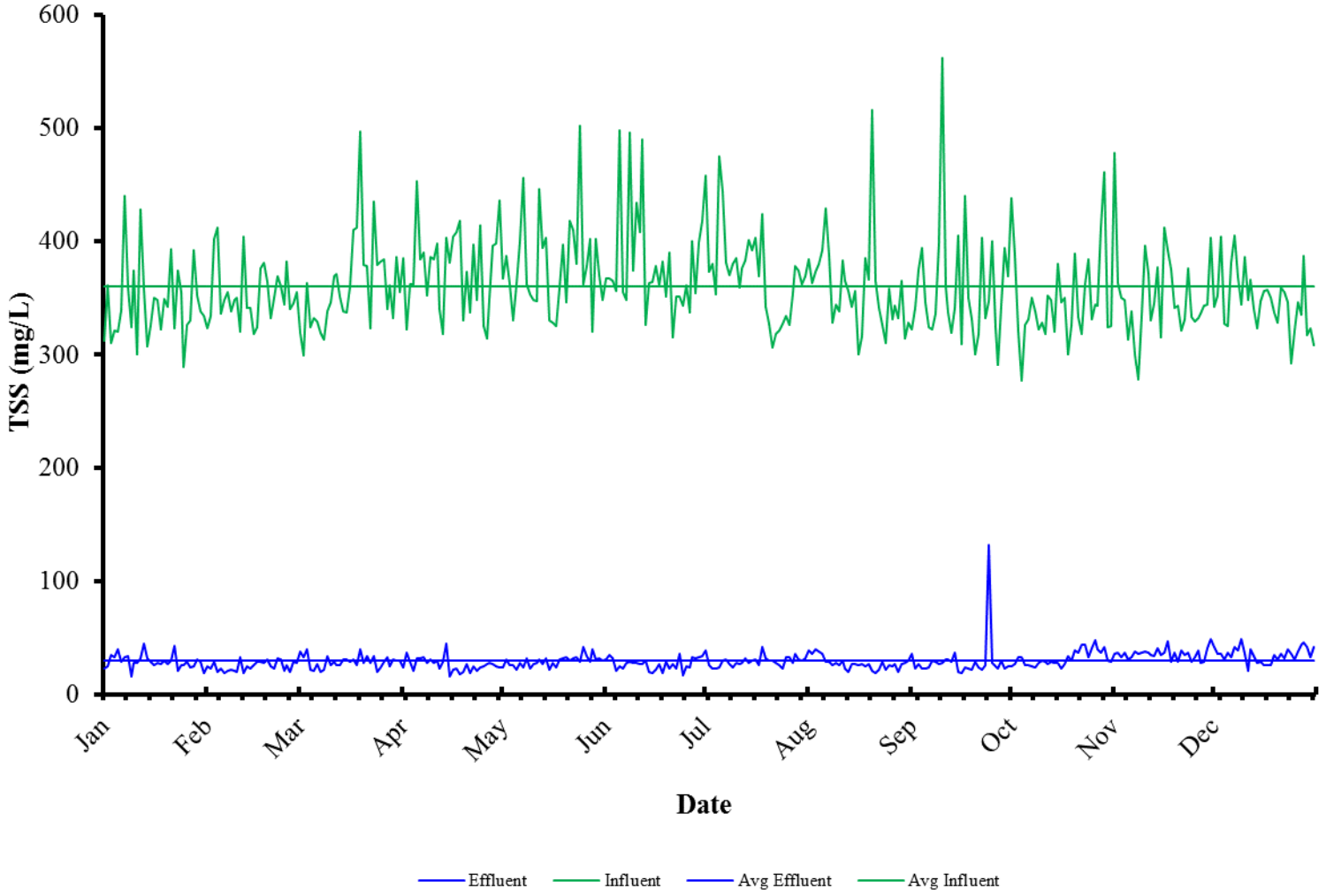
Point Loma Wastewater Treatment Plant
2015 Daily Flows (mgd)



Point Loma Wastewater Treatment Plant
2015 Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	131.1	139.6	163.1	131.1	122.6	129.5	129.6	130.1	122.9	135.5	135.5	128.7	
2	143.6	137.1	156.1	126.5	133.6	120.1	124.6	130.6	121.6	120.4	127.2	126.9	
3	139.1	134.1	149.1	126.9	128.1	127.0	131.0	110.3	131.6	126.0	128.2	125.5	
4	141.6	137.1	144.6	129.1	121.1	128.1	131.0	134.5	125.1	133.5	153.0	120.1	
5	141.1	130.5	145.1	132.1	128.5	120.5	123.5	128.1	120.1	135.0	135.0	133.7	
6	142.6	135.6	140.1	126.6	126.5	131.4	123.6	124.6	125.9	136.5	129.8	130.5	
7	140.7	133.6	137.6	127.0	123.1	127.0	126.0	130.1	135.1	144.1	133.5	128.0	
8	137.1	136.6	132.1	131.1	135.4	124.1	125.0	129.1	123.6	133.4	134.0	125.6	
9	135.6	135.6	139.6	125.7	137.0	131.1	126.6	125.6	128.6	128.7	128.4	129.1	
10	141.1	137.6	137.1	132.0	127.6	127.1	127.5	128.6	136.1	128.7	128.4	123.1	
11	149.1	133.9	136.1	127.8	135.6	124.8	122.0	122.6	123.5	134.0	130.6	133.4	
12	150.1	131.6	132.1	126.0	123.6	131.0	130.1	126.6	120.1	128.6	132.2	135.5	
13	143.8	131.6	134.6	129.1	130.1	131.5	122.1	127.6	134.4	132.6	129.6	133.6	
14	142.3	127.6	133.6	127.1	133.6	129.5	119.0	129.1	124.0	131.4	128.4	139.6	
15	137.2	130.6	134.6	133.0	157.1	126.5	128.0	128.5	157.0	131.4	135.3	132.6	
16	141.1	137.6	137.6	124.6	140.6	122.6	121.0	130.6	141.6	134.6	129.5	130.1	
17	140.6	133.6	131.5	125.5	136.1	128.1	129.6	125.6	128.9	132.5	136.4	126.0	
18	138.0	132.8	133.5	124.9	133.5	130.1	110.5	127.6	136.1	134.0	129.2	153.4	
19	140.6	133.1	139.7	124.3	135.4	127.5	154.6	130.6	136.6	133.0	132.0	145.6	
20	143.6	132.6	132.8	126.0	128.9	126.6	152.6	121.1	128.6	129.9	122.9	133.6	
21	132.6	132.6	133.1	126.9	129.7	124.1	145.0	123.0	129.6	128.2	126.3	137.9	
22	136.0	133.6	132.1	120.8	132.6	125.6	143.6	126.1	131.0	132.9	130.3	137.7	
23	134.1	140.6	137.9	129.0	130.6	123.6	144.1	132.5	123.6	127.7	126.6	155.7	
24	134.6	136.6	132.1	132.6	129.0	126.0	138.6	122.5	125.5	123.8	122.6	148.2	
25	133.6	138.1	131.1	129.4	129.5	121.5	136.6	130.1	134.0	130.6	129.0	126.4	
26	137.1	134.1	135.6	129.1	127.0	127.0	135.1	123.6	129.9	133.9	127.3	131.1	
27	134.1	133.1	130.1	132.6	133.1	126.6	129.1	132.1	131.6	129.2	123.1	138.7	
28	137.6	141.6	130.6	131.1	120.3	126.6	133.1	129.9	126.0	123.0	126.9	128.5	
29	133.7		130.9	130.1	129.0	127.1	132.1	128.4	136.6	129.0	133.3	144.3	
30	135.6		130.6	124.1	119.5	127.0	128.1	133.0	122.6	128.6	130.5	124.2	Annual
31	134.6		132.5		131.5		130.6	128.0		131.0		146.9	Summary
Average	138.8	134.7	137.0	128.1	130.6	126.6	130.8	127.4	129.7	131.0	130.5	134.0	131.6
Minimum	131.1	127.6	130.1	120.8	119.5	120.1	110.5	110.3	120.1	120.4	122.6	120.1	110
Maximum	150.1	141.6	156.1	133.0	157.1	131.5	154.6	134.5	157.0	144.1	153.0	155.7	163
Total	4302.6	3771.7	4083.3	3710.6	3926.8	3669.2	3923.7	3819.7	3768.2	3926.1	3779.0	4025.1	48034

Point Loma Wastewater Treatment Plant
2015 Total Suspended Solids



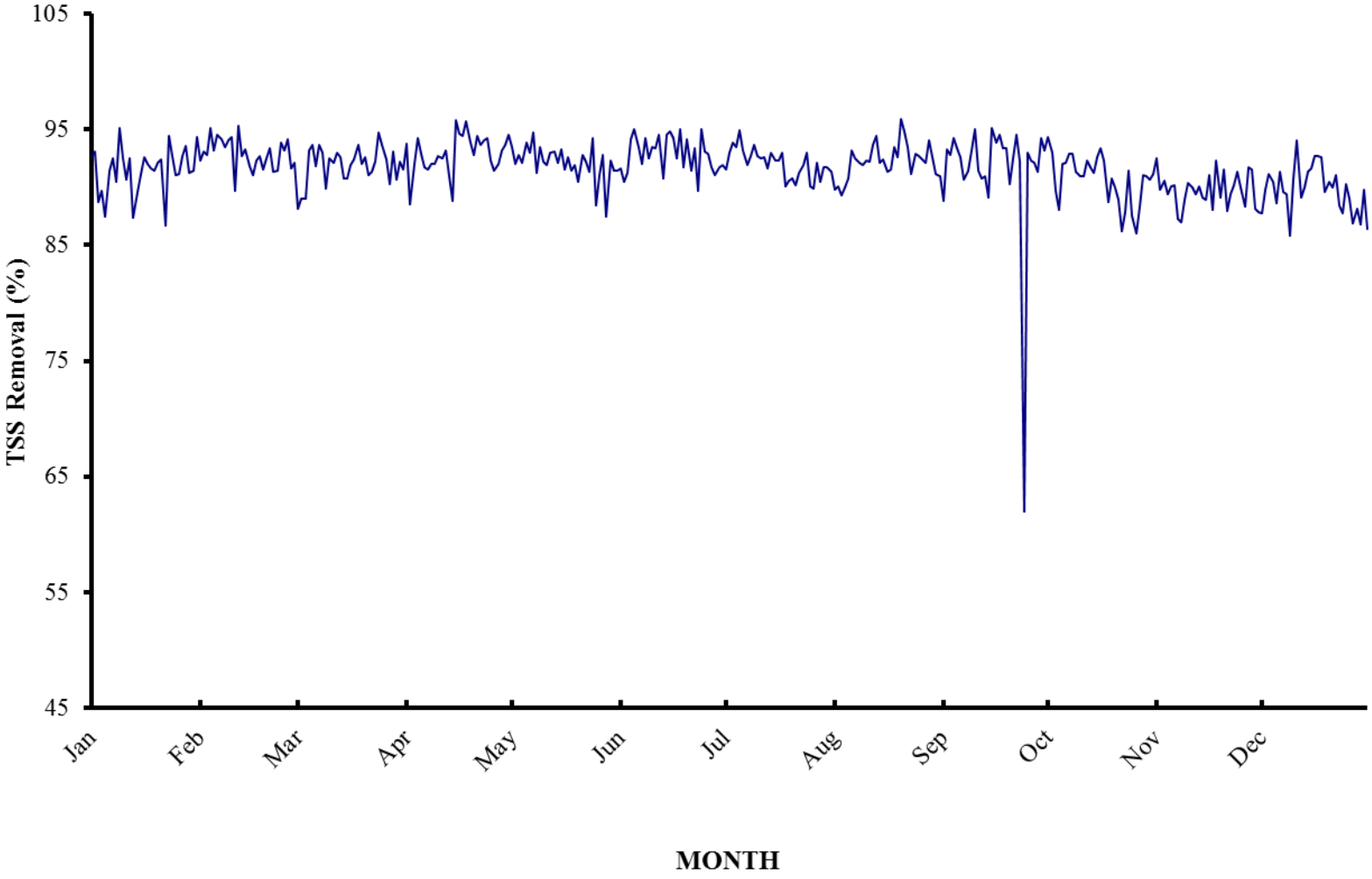
Point Loma Wastewater Treatment Plant

2015 Total Suspended Solids (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	312	23	323	25	319	38	385	24	367	24	367	31	458	39	384	39	322	36	438	25	478	36	342	42
2	361	25	334	23	299	33	322	37	387	31	367	35	373	26	363	36	341	23	388	27	363	37	352	36
3	310	35	402	29	363	40	362	29	362	26	365	32	380	23	373	40	375	27	321	33	350	33	404	36
4	321	33	412	20	324	22	362	21	330	26	356	21	353	23	380	38	394	23	276	33	348	37	327	31
5	320	40	336	23	332	21	453	32	362	22	498	25	475	24	392	36	346	23	326	26	313	31	325	37
6	339	29	348	19	329	27	384	32	400	28	355	23	444	30	429	29	324	24	331	26	338	33	381	33
7	440	33	355	21	319	20	390	33	456	24	348	28	381	31	387	29	322	30	350	25	300	38	405	42
8	359	34	338	22	313	22	352	28	362	32	496	29	370	27	328	26	336	29	338	24	277	36	368	39
9	324	16	348	21	338	34	386	31	353	23	374	28	380	24	344	28	398	27	322	28	334	37	344	49
10	374	28	350	20	346	26	384	28	348	27	434	28	385	28	338	26	562	28	328	30	396	38	386	36
11	300	28	320	33	369	29	398	30	347	28	408	27	359	27	383	30	360	31	318	29	371	37	348	21
12	428	32	404	19	371	26	340	23	446	31	490	27	376	28	365	23	337	31	352	27	330	35	366	40
13	358	45	341	25	351	26	318	29	394	27	326	30	383	32	356	20	319	29	348	29	345	34	340	34
14	307	32	341	23	338	31	403	45	403	32	363	20	401	28	342	27	341	37	320	28	377	41	323	28
15	326	29	318	26	337	31	381	16	330	22	364	19	392	30	356	27	405	20	380	28	315	35	347	29
16	350	26	324	29	360	29	404	22	328	28	378	22	403	31	300	26	309	19	346	23	412	37	356	26
17	348	28	376	29	410	31	408	23	325	24	361	27	369	26	316	27	440	24	350	27	392	47	357	26
18	322	27	381	28	412	26	418	18	359	31	382	19	424	42	385	25	350	23	300	34	375	29	350	26
19	349	30	364	31	497	40	330	20	397	32	351	29	342	32	366	27	331	22	326	30	341	37	337	35
20	342	27	332	25	379	28	373	27	346	33	390	23	327	30	516	21	300	29	389	39	343	29	328	31
21	393	30	350	23	378	34	337	19	418	30	315	27	306	30	365	19	318	24	333	37	321	39	359	36
22	323	43	369	32	323	28	397	25	410	32	351	23	318	28	341	22	403	22	318	44	331	35	355	32
23	374	21	360	31	435	34	348	21	380	33	351	36	321	26	326	29	332	26	362	44	376	37	346	40
24	355	26	344	21	379	20	414	24	502	29	343	17	327	23	310	22	347	132	384	33	333	29	292	36
25	288	26	382	26	382	24	325	25	362	42	361	25	334	33	358	26	400	28	331	41	329	33	321	31
26	326	29	340	20	384	29	314	27	378	34	337	24	326	33	331	25	324	25	344	48	332	39	346	38
27	330	24	345	29	340	33	348	28	402	29	400	33	354	28	343	27	290	23	343	40	336	28	335	44
28	392	25	355	28	361	25	396	27	320	40	354	32	378	36	332	20	343	30	412	37	343	29	387	46
29	352	31			332	31	398	25	402	31	399	33	374	31	365	27	394	23	461	42	344	41	317	42
30	338	29			386	30	436	24	370	32	418	34	362	30	314	28	369	25	324	30	403	49	323	33
31	334	19			355	30			348	30			369	32	328	30			325	29			308	42
Avg	345	29	353	25	360	29	376	26	377	29	380	27	372	29	359	28	358	30	348	32	352	26	348	35
Min	288	16	318	19	299	20	314	16	320	22	315	17	306	23	300	19	290	19	276	23	277	28	292	21
Max	440	45	412	33	497	40	453	45	502	42	498	36	475	42	516	40	562	132	461	48	478	49	405	49

Summary	
Inf	Eff
361	29
276	16
562	132

Point Loma Wastewater Treatment Plant
2015 TSS Removal (%) at Point Loma

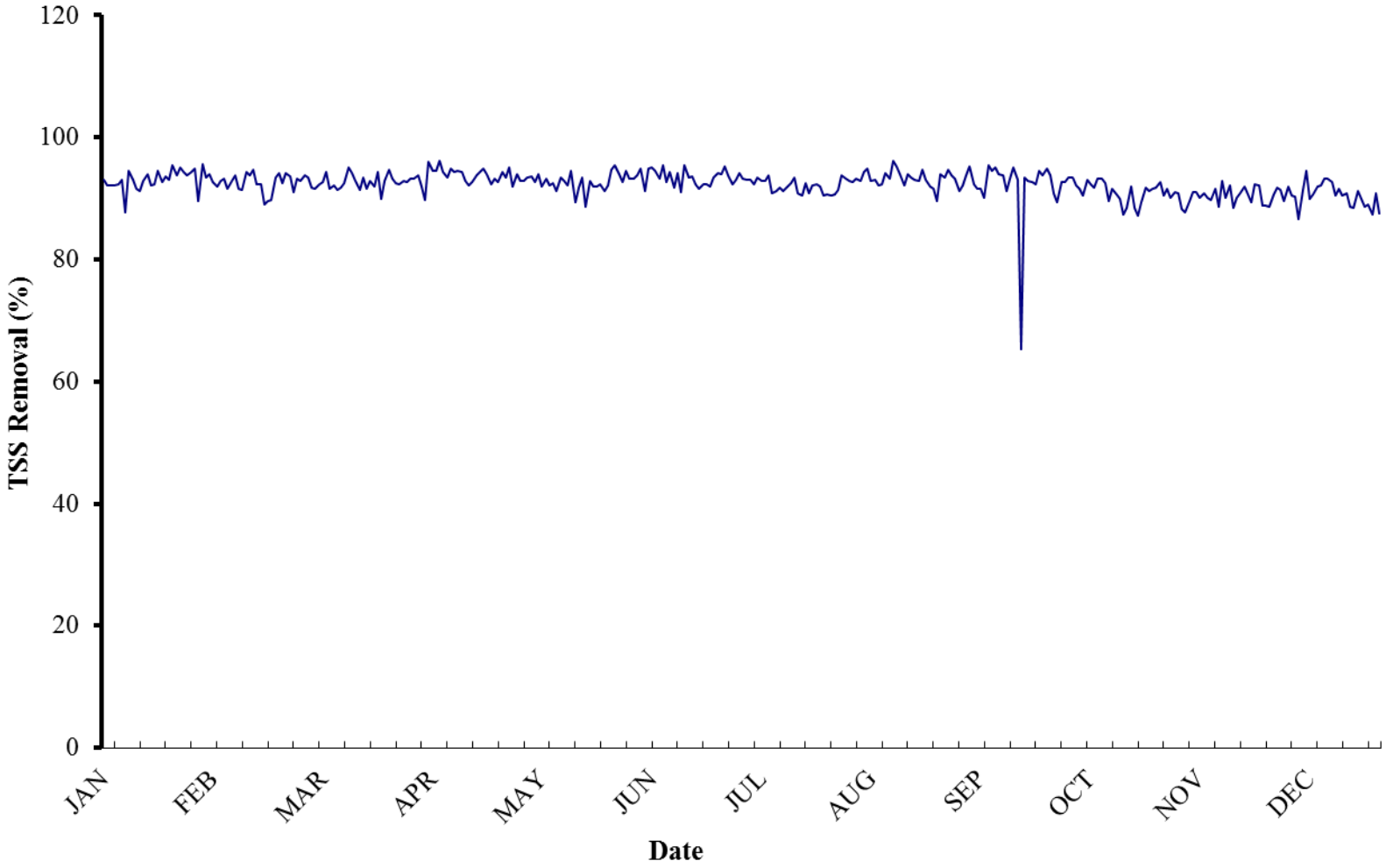


Point Loma Wastewater Treatment Plant

2015 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	92.6	92.3	88.1	93.8	93.5	91.6	91.5	89.8	88.8	94.3	92.5	87.7	
2	93.1	93.1	89.0	88.5	92.0	90.5	93.0	90.1	93.3	93.0	89.8	89.8	
3	88.7	92.8	89.0	92.0	92.8	91.2	93.9	89.3	92.8	89.7	90.6	91.1	
4	89.7	95.1	93.2	94.2	92.1	94.1	93.5	90.0	94.2	88.0	89.4	90.5	
5	87.5	93.2	93.7	92.9	93.9	95.0	94.9	90.8	93.4	92.0	90.1	88.6	
6	91.4	94.5	91.8	91.7	93.0	93.5	93.2	93.2	92.6	92.1	90.2	91.3	
7	92.5	94.1	93.7	91.5	94.7	92.0	91.9	92.5	90.7	92.9	87.3	89.6	
8	90.5	93.5	93.0	92.0	91.2	94.2	92.7	92.1	91.4	92.9	87.0	89.4	
9	95.1	94.0	89.9	92.0	93.5	92.5	93.7	91.9	93.2	91.3	88.9	85.8	
10	92.5	94.3	92.5	92.7	92.2	93.5	92.7	92.3	95.0	90.9	90.4	90.7	
11	90.7	89.7	92.1	92.5	91.9	93.4	92.5	92.2	91.4	90.9	90.0	94.0	
12	92.5	95.3	93.0	93.2	93.0	94.5	92.6	93.7	90.8	92.3	89.4	89.1	
13	87.4	92.7	92.6	90.9	93.1	90.8	91.6	94.4	90.9	91.7	90.1	90.0	
14	89.6	93.3	90.8	88.8	92.1	94.5	93.0	92.1	89.1	91.2	89.1	91.3	
15	91.1	91.8	90.8	95.8	93.3	94.8	92.3	92.4	95.1	92.6	88.9	91.6	
16	92.6	91.0	91.9	94.6	91.5	94.2	92.3	91.3	93.9	93.4	91.0	92.7	
17	92.0	92.3	92.4	94.4	92.6	92.5	93.0	91.5	94.5	92.3	88.0	92.7	
18	91.6	92.7	93.7	95.7	91.4	95.0	90.1	93.5	93.4	88.7	92.3	92.6	
19	91.4	91.5	92.0	93.9	91.9	91.7	90.6	92.6	93.4	90.8	89.1	89.6	
20	92.1	92.5	92.6	92.8	90.5	94.1	90.8	95.9	90.3	90.0	91.5	90.5	
21	92.4	93.4	91.0	94.4	92.8	91.4	90.2	94.8	92.5	88.9	87.9	90.0	
22	86.7	91.3	91.3	93.7	92.2	93.4	91.2	93.5	94.5	86.2	89.4	91.0	
23	94.4	91.4	92.2	94.0	91.3	89.7	91.9	91.1	92.2	87.8	90.2	88.4	
24	92.7	93.9	94.7	94.2	94.2	95.0	93.0	92.9	62.0	91.4	91.3	87.7	
25	91.0	93.2	93.7	92.3	88.4	93.1	90.1	92.7	93.0	87.6	90.0	90.3	
26	91.1	94.1	92.4	91.4	91.0	92.9	89.9	92.4	92.3	86.0	88.3	89.0	
27	92.7	91.6	90.3	92.0	92.8	91.7	92.1	92.1	92.1	88.3	91.7	86.9	
28	93.6	92.1	93.1	93.2	87.5	91.0	90.5	94.0	91.3	91.0	91.5	88.1	
29	91.2		90.7	93.7	92.3	91.7	91.7	92.6	94.2	90.9	88.1	86.8	
30	91.4		92.2	94.5	91.4	91.9	91.7	91.1	93.2	90.7	87.8	89.8	Annual
31	94.3		91.5		91.4		91.3	90.9		91.1		86.4	Summary
Avg	91.5	92.9	91.9	92.9	92.1	92.8	92.0	92.2	91.5	90.7	89.7	89.8	91.7
Min	86.7	89.7	88.1	88.5	87.5	89.7	89.9	89.3	62.0	86.0	87.0	85.8	62.0
Max	95.1	95.3	94.7	95.8	94.7	95.0	94.9	95.9	95.1	94.3	92.5	94.0	95.9

Point Loma Wastewater Treatment Plant
2015 TSS Removal (%) Systemwide

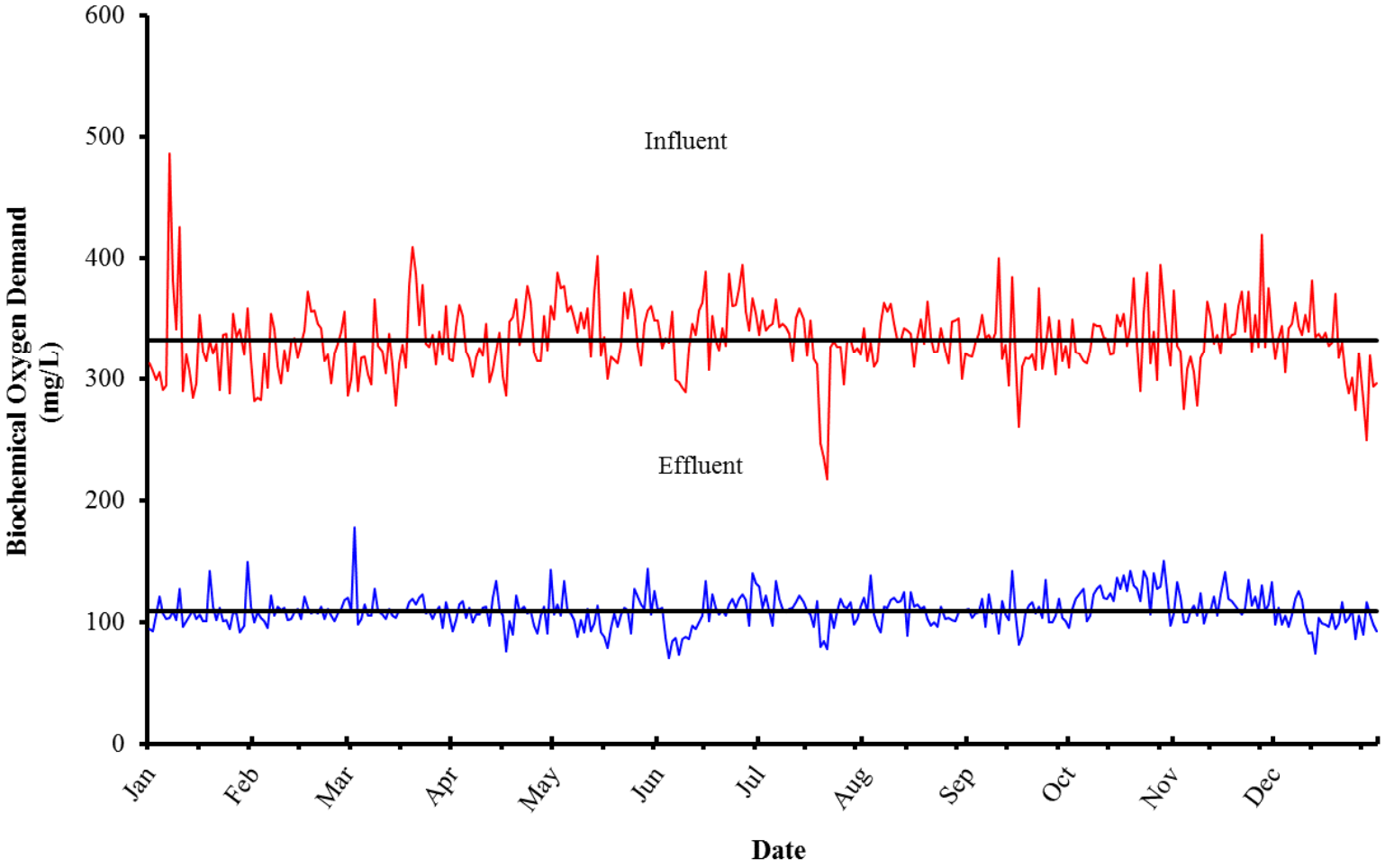


Point Loma Wastewater Treatment Plant

2015 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	
1	93.2	92.7	89.0	94.4	93.9	92.3	91.9	90.4	89.6	94.8	92.7	88.6	
2	93.4	93.6	89.6	90.0	92.3	91.3	93.5	90.6	93.9	93.8	90.5	90.6	
3	89.5	93.1	89.7	92.8	93.2	92.2	94.1	90.5	93.4	90.8	91.5	91.8	
4	90.4	95.4	93.4	94.7	92.6	94.7	93.9	90.6	94.7	89.4	90.1	91.4	
5	88.3	93.7	94.2	93.3	94.3	95.5	95.3	91.4	93.8	92.6	91.0	89.6	
6	91.9	95.0	92.5	92.5	93.5	93.9	93.8	93.8	93.2	92.7	90.9	91.9	
7	92.9	94.4	94.2	92.4	95.1	92.7	92.4	93.3	91.3	93.4	88.2	90.5	
8	91.3	93.7	93.6	92.9	91.9	94.5	93.1	92.9	92.2	93.5	87.8	90.3	
9	95.2	94.4	91.1	92.6	94.0	93.3	94.1	92.7	93.7	92.1	89.6	86.6	
10	93.1	94.8	93.3	93.2	92.8	93.3	93.2	93.2	95.3	91.6	91.1	91.4	
11	91.5	89.6	92.8	93.3	92.8	93.7	93.0	92.9	92.3	90.4	91.0	94.5	
12	92.8	95.6	93.8	93.8	93.5	94.8	93.1	94.3	91.6	93.1	90.2	89.9	
13	88.8	93.4	93.4	92.0	93.6	91.3	92.3	94.9	91.6	92.3	90.8	90.7	
14	90.4	93.9	91.7	89.8	92.7	94.8	93.4	92.9	90.2	91.8	90.1	91.9	
15	91.7	92.6	91.5	96.0	93.9	95.1	92.9	93.0	95.4	93.2	89.7	92.2	
16	93.1	91.9	92.3	94.6	91.9	94.6	92.9	92.1	94.5	93.2	91.6	93.2	
17	92.2	92.8	92.7	94.6	93.3	93.2	93.8	92.3	95.0	92.5	88.6	93.3	
18	92.1	93.3	94.4	96.1	92.1	95.5	90.8	94.1	94.0	89.5	92.8	92.7	
19	92.2	91.5	91.6	94.4	92.5	92.7	91.2	93.3	93.8	91.5	90.1	90.4	
20	92.4	92.8	92.1	93.4	91.3	94.3	91.7	96.2	91.2	90.6	92.2	91.5	
21	93.1	93.8	91.4	94.9	93.4	91.7	91.2	95.3	93.3	89.9	88.4	90.5	
22	87.7	91.6	91.8	94.3	92.9	94.2	92.0	93.9	95.1	87.3	90.1	90.8	
23	94.5	91.4	92.5	94.6	92.1	91.0	92.5	92.2	93.1	88.5	90.9	88.7	
24	93.1	94.3	95.1	94.4	94.6	95.5	93.4	93.9	65.3	91.9	91.9	88.4	
25	91.5	93.7	94.2	92.8	89.3	93.5	90.9	93.5	93.4	88.5	90.7	91.3	
26	91.3	94.7	92.8	92.1	91.7	93.6	90.5	93.1	92.8	87.1	89.3	90.0	
27	92.9	92.4	91.4	92.7	93.4	92.3	92.5	92.8	92.7	89.4	92.4	88.7	
28	94.0	92.4	93.4	93.8	88.6	91.5	90.8	94.7	92.3	91.8	92.1	89.0	
29	92.1		91.5	94.4	92.8	92.4	92.1	93.0	94.6	91.3	88.9	87.4	
30	92.3		92.9	94.8	91.9	92.3	92.3	91.9	93.8	91.6	88.8	90.8	Annual
31	94.6		92.0		92.0		92.0	91.6		91.8		87.5	Summary
Avg	92.0	93.3	92.4	93.5	92.7	93.4	92.6	92.9	92.2	91.4	90.5	90.5	92.3
Min	87.7	89.6	89.0	89.8	88.6	91.0	90.5	90.4	65.3	87.1	87.8	86.6	65.3
Max	95.2	95.6	95.1	96.1	95.1	95.5	95.3	96.2	95.4	94.8	92.8	94.5	96.2

Point Loma Wastewater Treatment Plant
2015 Biochemical Oxygen Demand



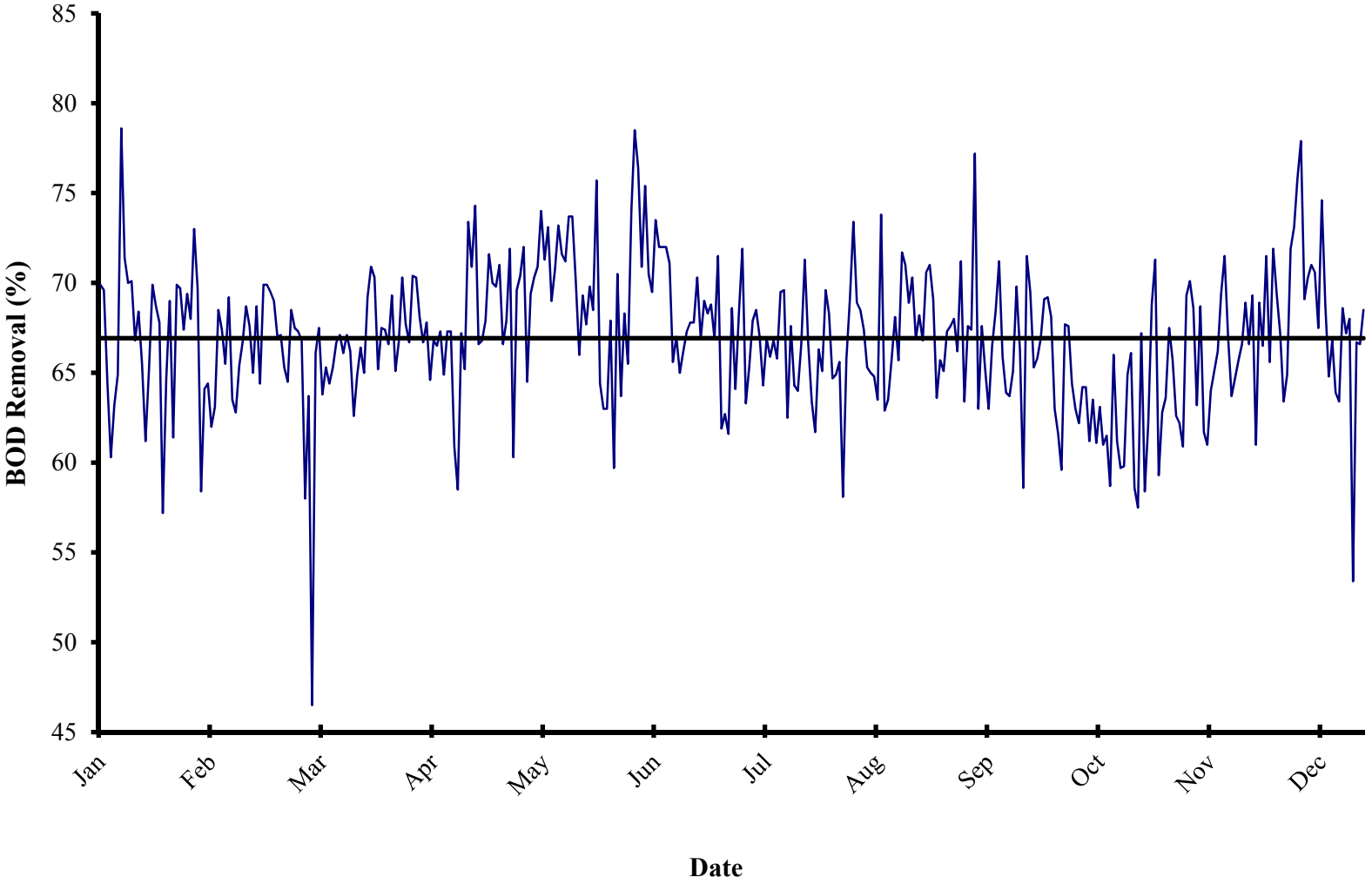
Point Loma Wastewater Treatment Plant

2015 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	313	94	281	100	286	120	314	93	349	106	348	110	336	129	342	120	319	111	309	95	373	107	316	98
2	306	93	284	108	300	109	343	102	388	115	325	112	357	112	314	108	318	104	349	111	327	133	334	112
3	299	106	282	104	333	178	361	115	375	105	334	87	340	122	330	138	330	107	322	119	323	120	344	98
4	305	121	321	101	290	98	352	117	377	134	330	71	344	109	310	106	337	108	321	123	275	100	305	105
5	291	107	292	95	317	103	323	104	356	109	356	84	346	97	314	97	353	119	314	127	308	100	342	96
6	294	103	354	122	318	115	316	112	360	107	299	87	366	134	346	92	334	96	313	101	318	109	346	106
7	486	104	341	105	303	105	302	100	350	102	297	73	343	119	363	113	336	123	324	105	305	114	363	119
8	381	109	310	113	295	105	317	106	338	88	292	86	346	111	356	112	331	107	346	123	278	105	344	126
9	341	102	296	110	366	127	325	106	355	102	289	88	343	108	362	118	338	110	344	127	317	124	336	118
10	425	127	324	112	327	109	319	112	342	92	325	86	337	111	346	120	400	91	344	130	323	99	353	99
11	290	96	306	102	323	106	346	113	358	111	346	97	314	112	332	116	316	117	335	120	364	109	339	91
12	320	101	330	103	304	103	297	97	318	93	336	94	350	116	332	117	328	106	333	119	351	110	381	92
13	305	105	334	108	337	111	307	120	370	99	357	100	358	122	342	125	294	102	320	124	329	121	335	74
14	284	110	317	111	311	105	323	134	402	114	363	105	349	116	340	89	384	142	321	117	336	105	337	104
15	296	103	329	103	278	104	338	111	319	92	389	134	319	109	337	125	317	106	353	137	321	123	333	99
16	353	106	340	121	313	110	302	105	335	88	307	101	348	106	310	113	260	82	344	127	362	141	338	98
17	323	101	372	112	328	110	286	76	300	79	352	123	316	96	335	115	310	89	354	138	331	119	327	96
18	314	101	356	107	309	108	347	101	318	95	332	112	312	117	349	111	317	108	327	126	336	117	330	107
19	332	142	357	109	377	116	351	90	315	107	324	106	247	80	329	113	316	114	344	142	337	114	370	94
20	321	113	346	107	409	119	366	122	313	96	342	110	235	84	364	103	320	116	383	130	360	110	317	99
21	329	102	342	113	387	115	328	109	328	106	327	105	217	78	335	97	307	107	328	127	372	106	330	116
22	291	112	314	103	345	120	352	113	371	112	387	115	326	109	322	100	375	113	290	117	339	112	302	100
23	336	101	320	111	378	123	377	107	350	110	360	119	331	95	323	96	308	104	354	142	372	135	288	104
24	337	102	296	105	329	107	363	109	374	91	361	112	326	109	342	113	326	135	388	136	323	114	301	110
25	288	94	321	101	326	109	322	97	357	127	375	119	326	119	324	103	351	100	313	106	353	121	274	86
26	354	108	329	107	336	103	314	91	327	121	394	123	295	113	313	104	328	100	339	140	326	109	321	105
27	335	107	339	111	312	109	314	105	311	115	356	118	333	112	347	102	303	105	299	127	419	130	282	90
28	341	92	356	118	339	113	352	113	346	111	340	97	333	116	348	101	348	119	394	129	326	109	249	116
29	320	97			320	95	324	91	357	144	367	140	322	98	350	108	314	104	361	150	375	115	319	106
30	358	149			360	116	360	143	360	106	354	132	325	103	300	109	327	101	331	125	341	133	293	98
31	315	113			316	105			348	126			320	113	321	110			311	97			296	93
Avg	328	107	325	108	328	112	331	107	347	107	342	105	325	109	335	109	328	108	336	124	337	115	324	102
Min	284	92	281	95	278	95	286	76	300	79	289	71	217	78	300	89	260	82	290	95	275	99	249	74
Max	486	149	372	122	409	178	377	143	402	144	394	140	366	134	364	138	400	142	394	150	419	141	381	126

Summary	
Inf	Eff
332	109
217	71
486	178

Point Loma Wastewater Treatment
2015 BOD Removal (%) at Point Loma

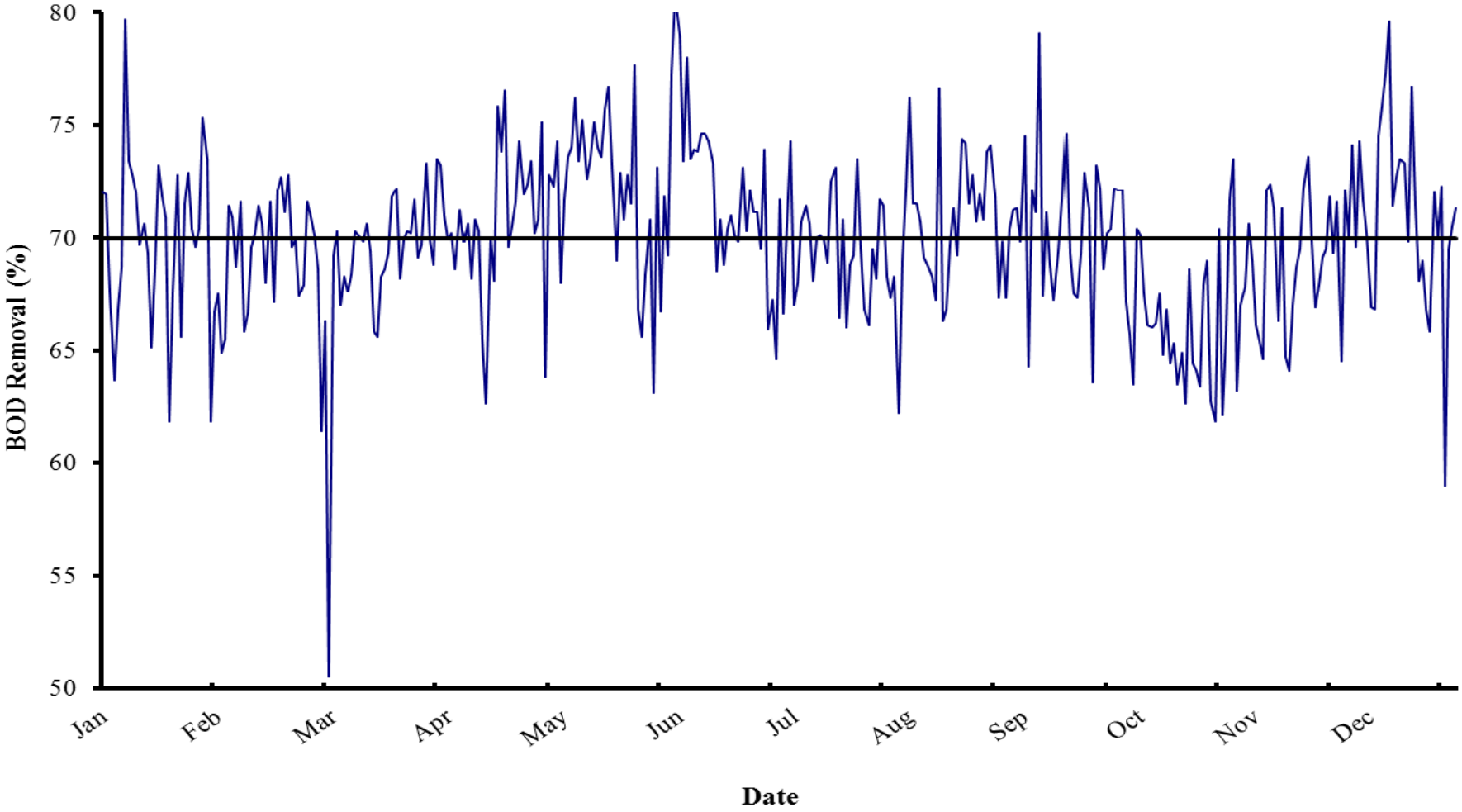


Point Loma Wastewater Treatment Plant

2015 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	
1	69.9	64.4	58.0	70.4	69.6	68.3	61.6	64.9	65.1	69.2	71.3	68.9	
2	69.6	62.0	63.7	70.3	70.4	65.5	68.6	65.6	67.3	68.1	59.3	66.5	
3	64.5	63.1	46.5	68.1	72.0	74.0	64.1	58.1	67.6	63.0	62.8	71.5	
4	60.3	68.5	66.1	66.7	64.5	78.5	68.3	65.8	68.0	61.6	63.6	65.6	
5	63.2	67.4	67.5	67.8	69.4	76.4	71.9	69.1	66.2	59.6	67.5	71.9	
6	64.9	65.5	63.8	64.6	70.3	70.9	63.3	73.4	71.2	67.7	65.7	69.4	
7	78.6	69.2	65.3	66.8	70.9	75.4	65.3	68.9	63.4	67.6	62.6	67.2	
8	71.4	63.5	64.4	66.5	74.0	70.5	67.9	68.5	67.6	64.4	62.2	63.4	
9	70.0	62.8	65.3	67.3	71.3	69.5	68.5	67.4	67.4	63.0	60.9	64.9	
10	70.1	65.4	66.7	64.9	73.1	73.5	67.0	65.3	77.2	62.2	69.3	71.9	
11	66.8	66.7	67.1	67.3	69.0	72.0	64.3	65.0	63.0	64.2	70.1	73.1	
12	68.4	68.7	66.1	67.3	70.7	72.0	66.9	64.8	67.6	64.2	68.6	75.8	
13	65.5	67.6	67.1	60.9	73.2	72.0	65.9	63.5	65.2	61.2	63.2	77.9	
14	61.2	65.0	66.2	58.5	71.6	71.1	66.8	73.8	63.0	63.5	68.7	69.1	
15	65.2	68.7	62.6	67.2	71.2	65.6	65.8	62.9	66.5	61.1	61.7	70.3	
16	69.9	64.4	64.9	65.2	73.7	67.0	69.5	63.5	68.4	63.1	61.0	71.0	
17	68.7	69.9	66.4	73.4	73.7	65.0	69.6	65.7	71.2	61.0	64.0	70.6	
18	67.8	69.9	65.0	70.9	70.1	66.2	62.5	68.1	65.9	61.5	65.1	67.5	
19	57.2	69.5	69.2	74.3	66.0	67.3	67.6	65.7	63.9	58.7	66.2	74.6	
20	64.7	69.0	70.9	66.6	69.3	67.8	64.3	71.7	63.7	66.0	69.4	68.8	
21	69.0	67.0	70.3	66.8	67.7	67.8	64.0	71.0	65.1	61.2	71.5	64.8	
22	61.4	67.1	65.2	67.9	69.8	70.3	66.6	68.9	69.8	59.7	67.0	66.8	
23	69.9	65.3	67.5	71.6	68.5	66.9	71.3	70.3	66.2	59.8	63.7	63.9	
24	69.7	64.5	67.4	70.0	75.7	69.0	66.6	66.9	58.6	64.9	64.7	63.4	
25	67.4	68.5	66.6	69.8	64.4	68.3	63.4	68.2	71.5	66.1	65.7	68.6	
26	69.4	67.5	69.3	71.0	63.0	68.8	61.7	66.8	69.5	58.6	66.6	67.2	
27	68.0	67.3	65.1	66.6	63.0	66.9	66.3	70.6	65.3	57.5	68.9	68.0	
28	73.0	66.8	66.7	67.9	67.9	71.5	65.1	71.0	65.8	67.2	66.6	53.4	
29	69.7		70.3	71.9	59.7	61.9	69.6	69.1	66.9	58.4	69.3	66.7	
30	58.4		67.7	60.3	70.5	62.7	68.3	63.6	69.1	62.2	61.0	66.6	
31	64.1		66.7		63.7		64.7	65.7		68.8		68.5	Annual Summary
Avg	67.0	66.6	65.7	67.6	69.3	69.4	66.4	67.2	66.9	63.1	65.6	68.3	66.9
Min	57.2	62.0	46.5	58.5	59.7	61.9	61.6	58.1	58.6	57.5	59.3	53.4	46.5
Max	78.6	69.9	70.9	74.3	75.7	78.5	71.9	73.8	77.2	69.2	71.5	77.9	78.6

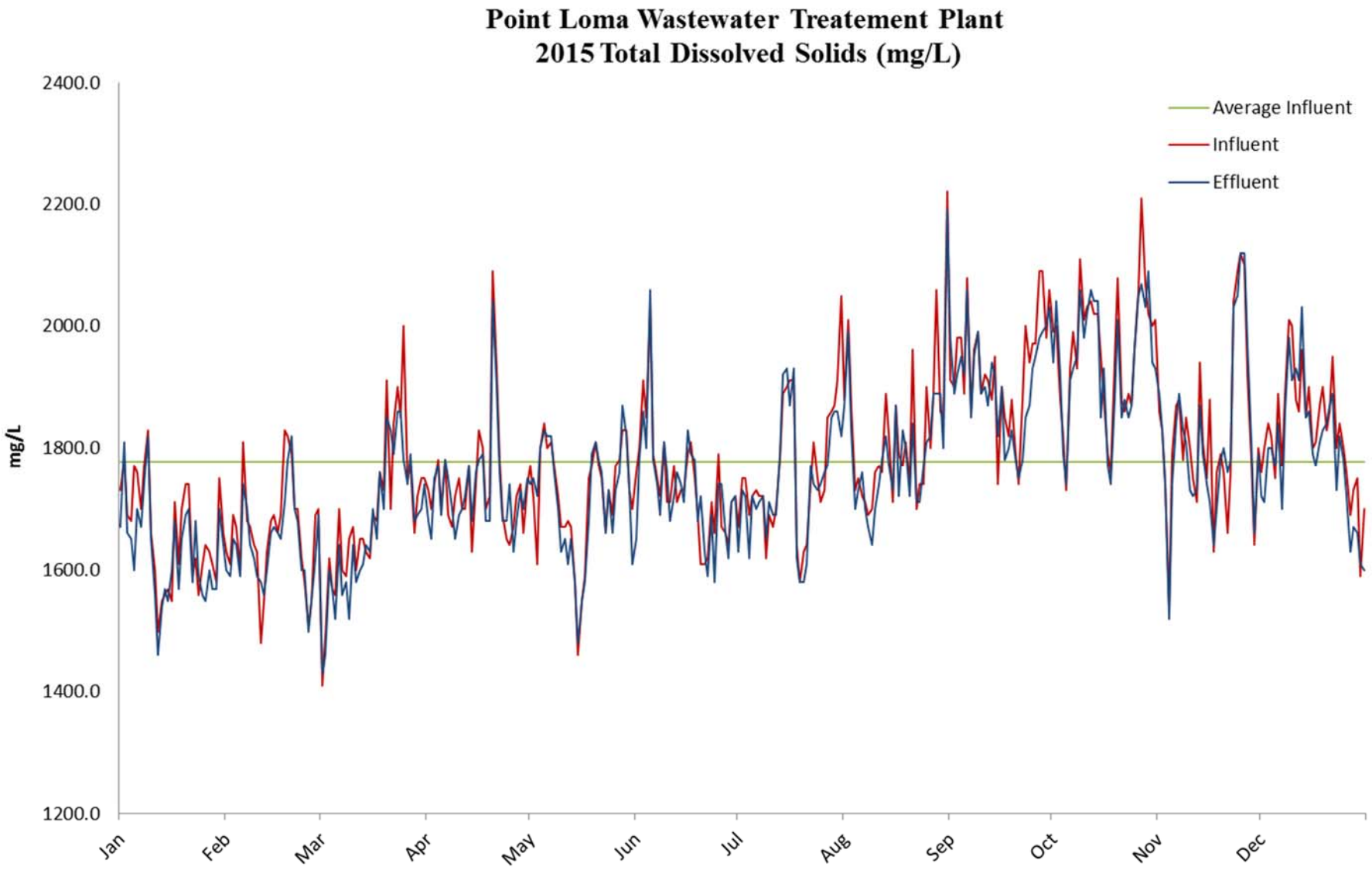
Point Loma Wastewater Treatment Plant
2015 BOD Removal (%) Systemwide



Point Loma Wastewater Treatment Plant

2015 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	72.0	67.5	61.4	73.5	72.8	71.8	64.6	67.3	67.3	72.1	73.5	72.1	
2	71.9	64.9	66.3	73.2	72.3	69.2	71.7	68.3	70.4	72.1	63.2	70.0	
3	67.6	65.5	50.5	71.0	74.3	77.3	66.6	62.2	71.2	67.1	67.0	74.1	
4	63.7	71.4	69.2	69.9	68.0	80.7	70.6	69.0	71.3	65.7	67.8	69.6	
5	66.8	70.9	70.3	70.2	71.7	79.0	74.3	72.1	69.8	63.5	70.6	74.3	
6	68.7	68.7	67.0	68.6	73.6	73.4	67.0	76.2	74.5	70.4	69.0	71.7	
7	79.7	71.6	68.3	71.2	74.0	78.0	68.0	71.5	64.3	70.1	66.1	70.2	
8	73.4	65.8	67.6	69.8	76.2	73.5	70.7	71.5	72.1	67.5	65.4	66.9	
9	72.8	66.6	68.4	70.6	73.4	73.9	71.4	70.7	71.1	66.1	64.6	66.8	
10	72.0	69.6	70.3	68.2	75.2	73.8	70.6	69.1	79.1	66.0	72.1	74.5	
11	69.7	70.2	70.1	70.8	72.6	74.6	68.1	68.8	67.4	66.2	72.4	75.8	
12	70.6	71.4	69.8	70.3	73.6	74.6	70.0	68.3	71.1	67.5	71.3	77.3	
13	69.3	70.6	70.6	65.5	75.1	74.3	70.1	67.2	68.8	64.8	66.3	79.6	
14	65.1	68.0	69.4	62.6	74.0	73.3	69.9	76.6	67.2	66.8	71.3	71.4	
15	68.6	71.6	65.8	70.0	73.6	68.5	68.9	66.3	69.4	64.4	64.7	72.7	
16	73.2	67.1	65.6	68.1	75.7	70.8	72.5	66.8	71.7	65.3	64.1	73.5	
17	71.8	72.1	68.3	75.8	76.7	68.8	73.1	69.7	74.6	63.5	67.0	73.3	
18	70.9	72.7	68.6	73.8	73.2	70.4	66.4	71.3	69.3	64.9	68.7	69.8	
19	61.8	71.1	69.3	76.5	69.0	71.0	70.8	69.2	67.5	62.6	69.5	76.7	
20	67.6	72.8	71.8	69.6	72.9	70.1	66.0	74.4	67.3	68.6	72.2	71.4	
21	72.8	69.6	72.2	70.5	70.8	69.8	68.8	74.2	69.3	64.4	73.6	68.1	
22	65.6	69.9	68.2	71.6	72.8	73.1	69.2	71.5	72.9	64.1	69.8	69.0	
23	71.5	67.4	69.9	74.3	71.5	70.3	73.5	72.8	71.2	63.4	66.9	66.8	
24	72.9	67.9	70.3	71.9	77.7	72.1	69.5	70.7	63.6	67.9	67.9	65.8	
25	70.4	71.6	70.2	72.4	66.8	71.1	66.8	71.9	73.2	69.0	69.1	72.0	
26	69.6	70.9	71.7	73.4	65.6	71.1	66.1	70.8	72.2	62.7	69.5	69.9	
27	70.4	70.1	69.1	70.2	68.4	69.5	69.5	73.8	68.6	61.8	71.8	72.3	
28	75.3	68.6	69.7	70.8	70.8	73.9	68.2	74.1	70.2	70.4	69.3	59.0	
29	73.5		73.3	75.1	63.1	65.9	71.7	71.8	70.4	62.1	71.6	69.5	
30	61.8		69.9	63.8	73.1	67.2	71.4	67.3	72.2	65.8	64.5	70.5	Annual
31	66.7		68.8		66.7		68.3	69.8		71.7		71.3	Summary
Avg	69.9	69.5	68.4	70.8	72.1	72.4	69.5	70.5	70.3	66.4	68.7	71.2	70.0
Min	61.8	64.9	50.5	62.6	63.1	65.9	64.6	62.2	63.6	61.8	63.2	59.0	50.5
Max	79.7	72.8	73.3	76.5	77.7	80.7	74.3	76.6	79.1	72.1	73.6	79.6	80.7


Point Loma Wastewater Treatement Plant
2015 Total Dissolved Solids (mg/L)
Average Influent
Influent
Effluent
mg/L
2400.0
2200.0
2000.0
1800.0
1600.0
1400.0
1200.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Point Loma Wastewater Treatment Plant

2015 Total Dissolved Solids (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	1730	1670	1630	1600	1410	1430	1730	1680	1770	1740	1760	1650	1670	1630	1880	1870	1910	1980	1990	1940	1860	1890	1760	1720
2	1780	1810	1610	1590	1490	1460	1700	1650	1720	1750	1800	1780	1750	1730	2010	1990	1900	1890	2000	2040	1830	1830	1800	1710
3	1690	1660	1690	1650	1620	1600	1740	1750	1610	1720	1910	1860	1750	1720	1870	1830	1980	1920	1880	1920	1740	1740	1840	1800
4	1680	1650	1670	1640	1570	1570	1780	1770	1800	1800	1850	1800	1690	1620	1730	1700	1980	1950	1820	1790	1540	1520	1820	1800
5	1770	1600	1600	1590	1560	1520	1700	1690	1840	1830	2030	2060	1720	1720	1750	1730	1890	1920	1730	1740	1790	1740	1750	1770
6	1760	1700	1810	1740	1700	1640	1780	1780	1800	1820	1790	1780	1730	1700	1720	1760	2080	2060	1930	1910	1870	1840	1890	1840
7	1700	1670	1680	1700	1600	1560	1690	1750	1810	1820	1750	1740	1720	1710	1710	1700	1860	1850	1990	1930	1880	1890	1770	1700
8	1770	1740	1670	1640	1590	1580	1670	1700	1770	1760	1720	1690	1720	1720	1690	1670	1960	1950	1930	1950	1780	1830	1890	1860
9	1830	1820	1640	1620	1650	1520	1720	1650	1720	1700	1810	1810	1620	1650	1700	1640	1990	1990	2110	2060	1850	1810	2010	1980
10	1660	1650	1630	1590	1670	1640	1750	1690	1670	1630	1710	1760	1690	1710	1760	1700	1890	1890	2010	1980	1800	1730	2000	1910
11	1600	1560	1480	1580	1600	1580	1700	1700	1670	1650	1710	1680	1670	1690	1770	1740	1920	1900	2030	2020	1750	1720	1880	1930
12	1500	1460	1550	1560	1650	1600	1700	1720	1680	1610	1770	1720	1700	1690	1760	1780	1910	1870	2040	2060	1710	1730	1860	1910
13	1550	1540	1630	1600	1650	1610	1770	1770	1670	1650	1710	1760	1780	1790	1890	1820	1880	1940	2020	2040	1940	1870	1960	2030
14	1560	1570	1680	1660	1630	1640	1630	1680	1580	1580	1730	1740	1890	1920	1820	1770	1950	1920	2020	2040	1810	1790	1850	1850
15	1570	1550	1690	1670	1620	1630	1740	1760	1460	1480	1730	1710	1900	1930	1710	1730	1740	1820	1950	1850	1750	1740	1900	1860
16	1550	1600	1660	1660	1690	1700	1830	1780	1550	1550	1790	1830	1910	1870	1870	1870	1900	1900	1880	1930	1880	1710	1800	1790
17	1710	1680	1690	1650	1680	1650	1800	1790	1590	1580	1810	1790	1910	1930	1790	1720	1850	1780	1790	1770	1630	1640	1810	1770
18	1610	1570	1830	1710	1760	1760	1700	1680	1750	1680	1750	1780	1640	1620	1770	1830	1820	1800	1760	1740	1760	1700	1870	1810
19	1700	1650	1820	1780	1730	1700	1720	1680	1770	1790	1690	1680	1580	1580	1810	1800	1880	1830	1940	1880	1790	1780	1900	1830
20	1740	1690	1790	1820	1910	1850	2090	2040	1810	1810	1610	1720	1630	1580	1740	1720	1790	1780	2080	2010	1760	1800	1830	1840
21	1740	1700	1700	1700	1700	1830	1930	1900	1770	1780	1610	1630	1640	1610	1960	1840	1740	1750	1880	1850	1660	1760	1860	1870
22	1590	1580	1700	1680	1840	1790	1780	1760	1750	1760	1620	1590	1740	1770	1700	1710	1880	1780	1860	1880	1760	1780	1950	1890
23	1620	1680	1620	1600	1900	1860	1690	1680	1660	1660	1710	1690	1810	1740	1740	1710	2000	1850	1890	1850	2040	2030	1800	1730
24	1560	1590	1580	1600	1850	1860	1650	1680	1730	1730	1660	1580	1750	1730	1740	1770	1940	1870	1870	1870	2090	2050	1840	1820
25	1610	1560	1510	1500	2000	1780	1640	1740	1690	1660	1790	1740	1710	1740	1900	1810	1970	1930	1960	1960	2120	2120	1800	1780
26	1640	1550	1550	1550	1750	1740	1670	1630	1770	1730	1670	1740	1730	1760	1800	1820	1970	1950	2060	2050	2100	2120	1760	1720
27	1630	1600	1690	1620	1770	1790	1720	1680	1780	1760	1660	1660	1850	1770	1890	1890	2090	1980	2210	2070	1920	1970	1690	1630
28	1610	1570	1700	1690	1660	1680	1740	1730	1830	1870	1640	1620	1860	1850	2060	1890	2090	1990	2070	2030	1780	1810	1730	1670
29	1580	1570			1720	1690	1660	1700	1830	1820	1710	1710	1870	1860	1860	1890	1980	2000	2020	2090	1640	1660	1750	1660
30	1750	1700			1750	1700	1740	1750	1730	1730	1720	1720	1910	1860	1850	1800	2060	2030	2000	1940	1800	1790	1590	1610
31	1660	1640			1750	1740			1700	1610			2050	1820	2220	2190			2010	1930			1700	1600
Avg	1660	1632	1661	1643	1693	1668	1739	1732	1719	1712	1741	1734	1761	1743	1822	1796	1927	1902	1959	1939	1821	1813	1828	1796
Min	1500	1460	1480	1500	1410	1430	1630	1630	1460	1480	1610	1580	1580	1580	1690	1640	1740	1750	1730	1740	1540	1520	1590	1600
Max	1830	1820	1830	1820	2000	1860	2090	2040	1840	1870	2030	2060	2050	1930	2220	2190	2090	2060	2210	2090	2120	2120	2010	2030

Summary	
Influent	Effluent
1777	1759
1410	1430
2220	2190

Point Loma Wastewater Treatment Plant
2015 Instantaneous Maximum Chlorine (mg/L) - Laboratory Grab

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	0	0	
21	0	0	0	0	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	0	0	0	0	
23	0	0	0	0	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	0	0	0	0	0	
26	0	0	0	0	0	0	0	0	0	0	0	0	
27	0	0	0	0	0	0	0	0	0	0	0	0	
28	0	0	0	0	0	0	0	0	0	0	0	0	
29	0		0	0	0	0	0	0	0	0	0	0	
30	0		0	0	0	0	0	0	0	0	0	0	Annual
31	0		0		0		0	0		0		0	Summary
Average	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
Maximum	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

Point Loma Wastewater Treatment Plant
2015 Instantaneous Maximum Chlorine (mg/L) - online meter

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
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	
30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Annual
31	0.00		0.00		0.00		0.00	0.00		0.00		0.00	Summary
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 2015

INTRODUCTION

The City of San Diego's Toxicology Laboratory (CSDTL) conducted or oversaw 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 2015.

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 detecting toxicants than acute tests in that adverse effects can be identified 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 chronic test initiation, and used for test initiation within 96 hours of collection or frozen to produce hypersaline brine. For the acute tests, receiving water may be collect and stored at 4 ºC for up to two weeks prior to test initiation. The station coordinates are as follows:

Collection Location	Latitude/Longitude	Station 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 2016).

Acute Bioassays

Mysid Survival Bioassay

During the current reporting period (January–December 2015), acute bioassays using the mysid shrimp *Mysidopsis bahia*, were conducted as a part of the mandated multiple-species screening effort in March and September 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 h 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/or CETIS (Tidepool Scientific Software 2010) were used for 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 2015), 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, 180, and 320 µg/L copper. An SIO seawater control was also tested.

At the end of the exposure period, 100 haphazardly-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/or CETIS (Tidepool Scientific Software 2010) were used for statistical analyses.

In accordance with USEPA guidelines on method variability, the lower "Percent Minimum Significant Difference" (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 10th 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 2015), chronic bioassays using the red abalone, *Haliotis rufescens*, were conducted monthly during January – April for the PLWTP effluent in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995).

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. An SIO seawater control was also tested.

At the end of the exposure period, 100 haphazardly-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/or 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 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 10th 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).

RESULTS & DISCUSSION

Acute Toxicity of PLWTP Effluent

In 2015, all acute bioassays of the PLWTP effluent using the mysid shrimp met the acceptability criterion of >90% control survival and demonstrated compliance with permit standards (Table T.1).

TABLE T.1

Results of PLWTP effluent semi-annual acute toxicity tests conducted in 2015. Data are presented as acute toxic units (TUa).

Sample Date	Mysid 96-Hour Bioassay
03/22/2015	5.99
09/15/2015	3.23
N	2
No. in compliance	2
Mean TUa	4.61

NPDES permit limit: 6.42 TUa

Chronic Toxicity of PLWTP Effluent

In 2015, routine chronic bioassays of the PLWTP effluent using the giant kelp as the primary test species were conducted. Chronic bioassays using the red abalone on a voluntary basis due to the ecological significance of the species were also conducted. 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).

TABLE T.2

Results of PLWTP effluent monthly chronic toxicity tests conducted in 2015. Data are presented as chronic toxic units (TUc).

	Giant Kelp		Red Abalone	
	Germination	Growth	Development	
Sample Date			Exclusive	Inclusive
01/05/2015	<64.1	<64.1	<64.1	<64.1
02/02/2015	113.6	113.6	-	-
02/16/2015	-	-	<64.1	<64.1
030/2/2015	<64.1	<64.1	<64.1	<64.1
04/06/2015	<64.1	<64.1	<64.1	<64.1
04/20/2015	-	-	<64.1	<64.1
05/12/2015	<64.1	370.4	-	-
06/02/2015	113.6	666.7	-	-
06/16/2015	<64.1	<64.1	-	-
06/29/2015	<64.1	<64.1	-	-
07/14/2015	<64.1	<64.1	-	-
07/28/2015	<64.1	<64.1	-	-
08/11/2015	<64.1	<64.1	-	-
08/25/2015	<64.1	<64.1	-	-
09/01/2015	<64.1	<64.1	-	-
10/06/2015	<64.1	<64.1	-	-
11/03/2015	<64.1	<64.1	-	-
12/01/2015	<64.1	<64.1	-	-
N	16	16	5	5
No. in Compliance	16	14	5	5
Median TUc	<64.1	<64.1	<64.1	<64.1
Mean TUc (Detected values)	113.6	383.6	NA	NA

NPDES permit limit: 205 TUc

All valid tests from 2015 were within the compliance limit with the exception of the May 12 and June 2 giant kelp bioassays. In accordance with notification submitted to the RWQCB in a letter dated June 3, 2015 the City initiated accelerated testing within 14 days of confirmation of both the May 12 and June 2 test results and implemented actions consistent with Tier I and Tier II of the current TRE Workplan for the PLWTP. Six accelerated testing events from samples collected bi-weekly on June 16, June 29, July 14, July 28, August 11, and August 25 all met the acceptability criteria and were within the compliance limit. Subsequently, toxicity testing of PLWTP effluent returned to its regular monthly schedule beginning September 2015.

LITERATURE CITED

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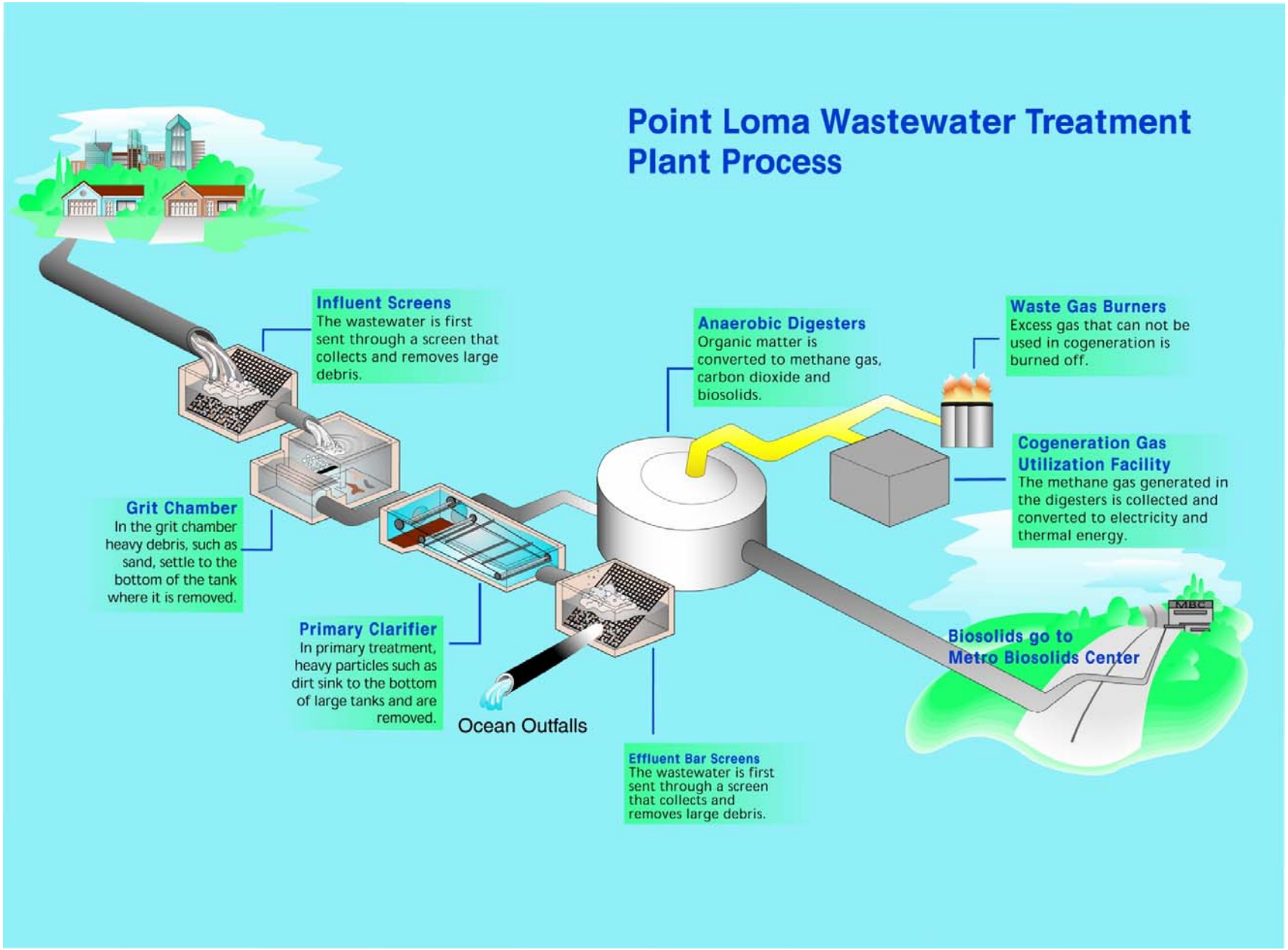
USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Fifth Edition. U.S. Environmental Protection Agency, Office of Water (4303T), Washington, DC, EPA-821-R-02-012.


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
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
Effluent Bar Screens
The wastewater is first sent through a screen that collects and removes large debris.

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.

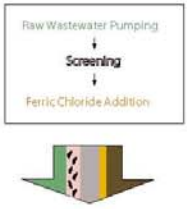
S8 Digester gas tested for percent methane, to determine if the microbial populations in the digester are in proper balance, and to indicate fuel value of digester gas. Hydrogen Sulfide tested to determine the corrosivity of the gas to the power generation equipment and air pollution potential.

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

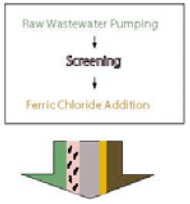
S10 All priority pollutants and other chemicals of concern are tested and the results compared to our discharge standards and reported to state and national regulators. The removal rates for solids on B.O.D. are used by Operations to guide adjustments to the treatment plant.

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

Pump Station 1



Pump Station 2



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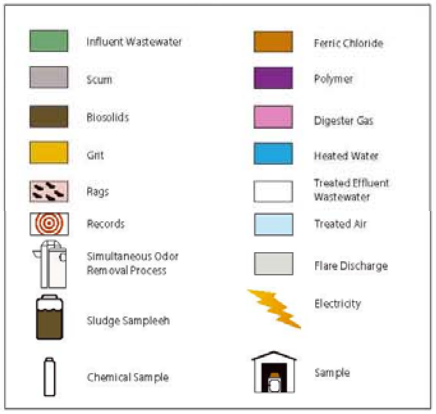
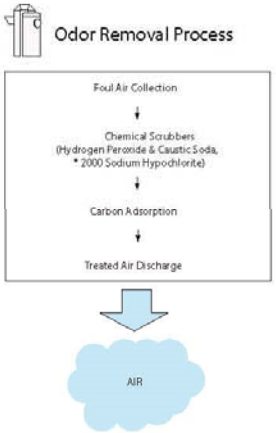
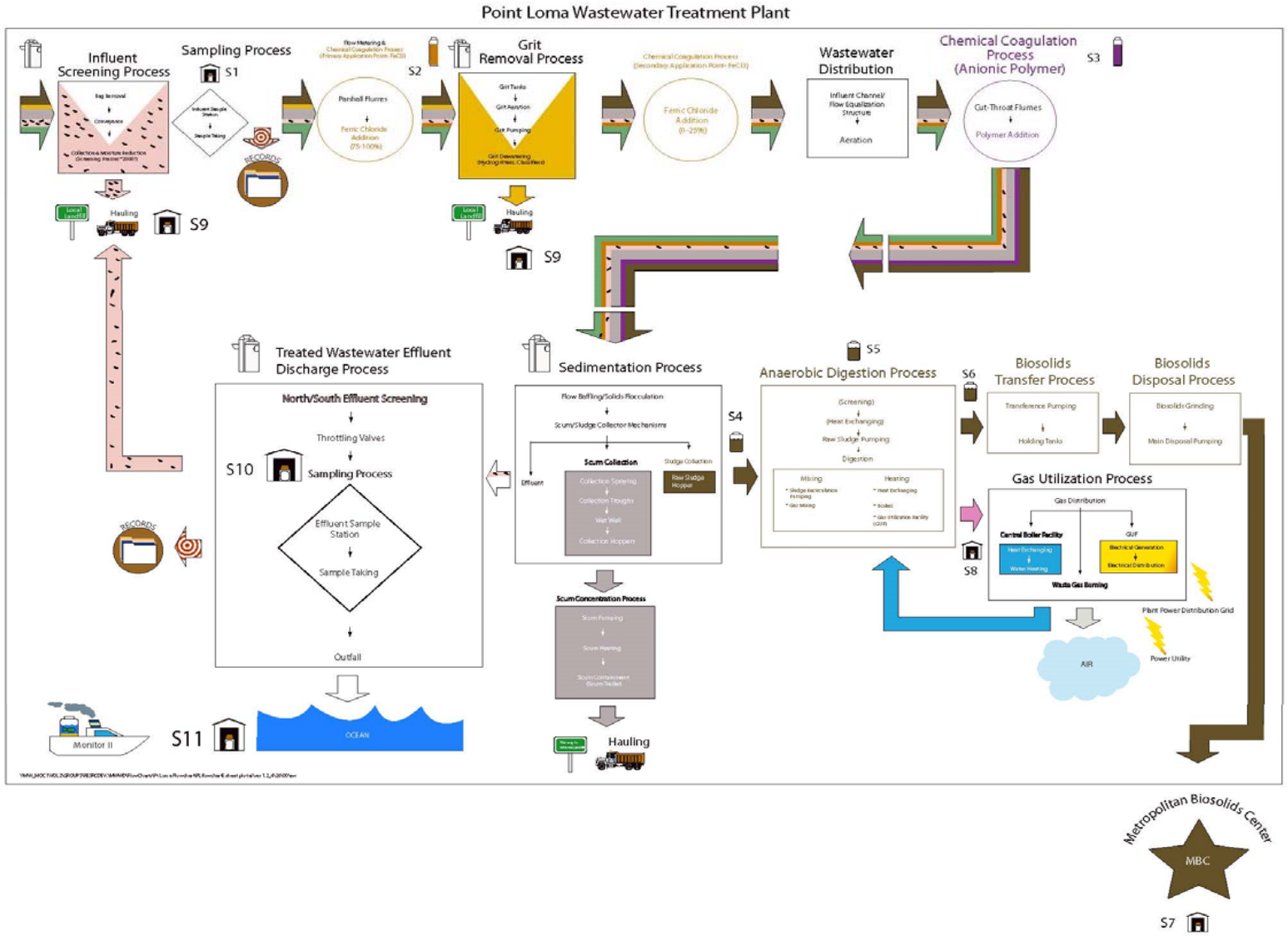


Odor Removal Process




Point Loma Wastewater Treatment Plant
Influent Screening Process
Sampling Process
S1
Grit Removal Process
S2
Wastewater Distribution
Chemical Coagulation Process (Anionic Polymer)
S3
Hauling
S9
Treated Wastewater Effluent Discharge Process
Sedimentation Process
S5
Anaerobic Digestion Process
S6
Biosolids Transfer Process
Biosolids Disposal Process
S4
North/South Effluent Screening
Throttling Valves
S10
Sampling Process
Effluent Sample Station
Sample Taking
Outfall
Gas Utilization Process
Plant Power Distribution Grid
Power Utility
AIR
S8
Monitor II
S11
OCEAN
Scum Concentration Process
Hauling
Metropolitan Biosolids Center
MBC
S7

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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. Grit Analyses
- H. Raw Sludge Data Summary
- I. Digester and Digested Sludge Data Summary

A. Flows

Point Loma Wastewater Treatment Plant Annual Monitoring Report
Flow Report - 2015

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	138.8	137.8	139.2	125.9	51.2
02	134.7	136.2	134.5	119.2	51.7
03	137.0	138.8	137.8	120.9	52.3
04	128.1	126.2	128.5	112.7	49.9
05	130.6	125.5	129.4	116.2	49.7
06	126.6	123.0	125.0	111.8	49.8
07	130.8	131.6	130.7	117.7	51.1
08	127.4	128.6	127.1	112.9	49.9
09	129.7	130.8	130.6	115.5	50.3
10	131.0	133.4	132.0	119.7	49.5
11	130.5	124.3	130.0	114.3	50.4
12	134.0	126.6	134.4	117.7	51.7
avg	131.6	130.2	131.6	117.0	50.6
sum	1,579.1	1,562.9	1,579.3	1,404.5	607.7

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	4,303	4,273	4,316	3,902	1,588
02	3,772	3,815	3,766	3,337	1,448
03	4,246	4,302	4,271	3,506	1,621
04	3,842	3,787	3,854	3,155	1,498
05	4,049	3,892	4,011	3,603	1,542
06	3,799	3,691	3,750	3,355	1,494
07	4,053	4,080	4,053	3,650	1,585
08	3,950	3,986	3,941	3,499	1,548
09	3,891	3,923	3,918	3,465	1,509
10	4,062	4,135	4,092	3,711	1,536
11	3,915	3,729	3,901	3,430	1,511
12	4,154	3,926	4,167	3,647	1,604
avg	4,003	3,961	4,003	3,522	1,540
sum	48,034	47,538	48,040	42,260	18,483

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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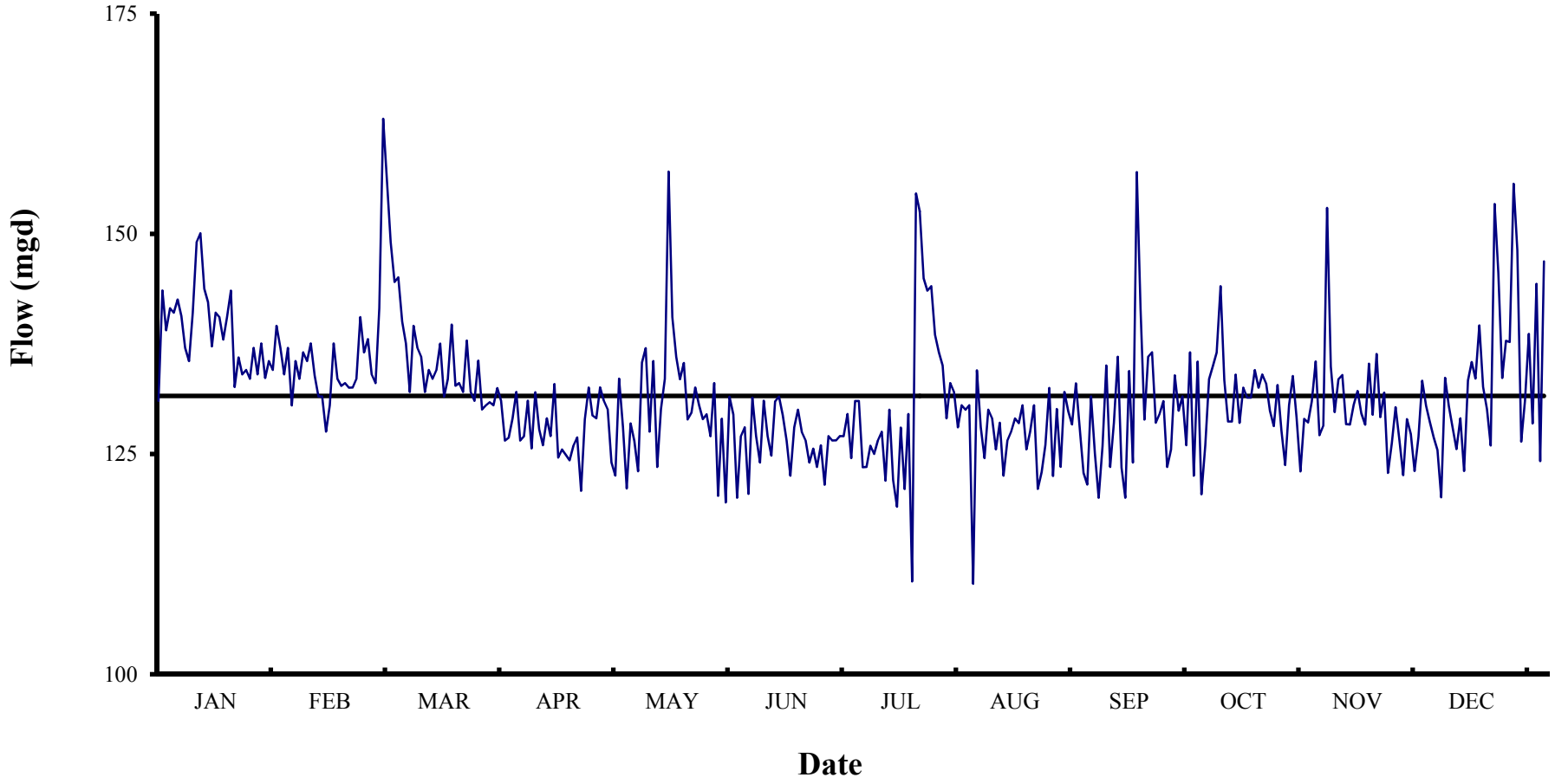
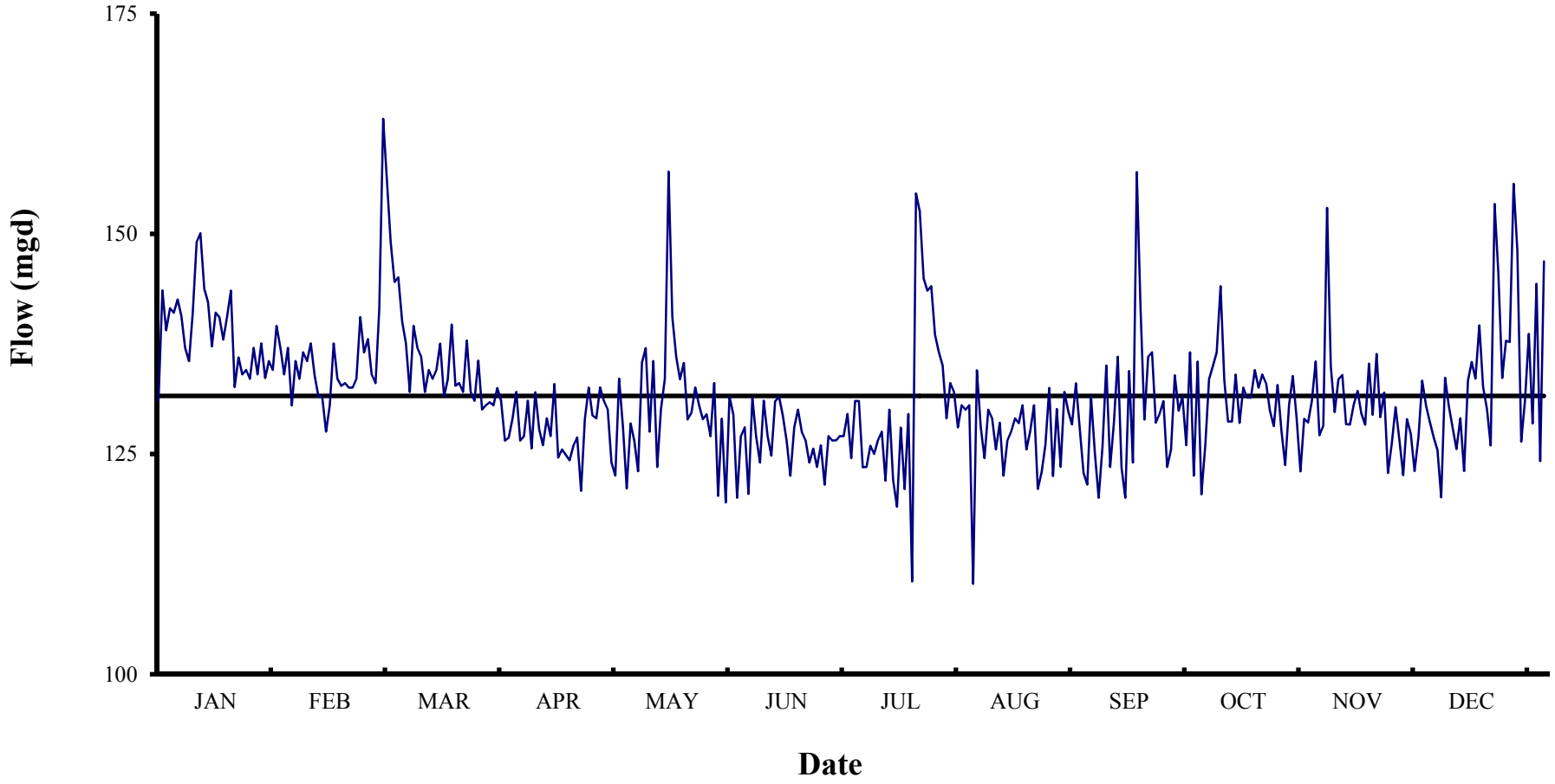
Point Loma Wastewater Treatment Plant
2015 Daily Flows (mgd)



Point Loma Wastewater Treatment Plant
2015 Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	131.1	139.6	163.1	131.1	122.6	129.5	129.6	130.1	122.9	135.5	135.5	128.7	
2	143.6	137.1	156.1	126.5	133.6	120.1	124.6	130.6	121.6	120.4	127.2	126.9	
3	139.1	134.1	149.1	126.9	128.1	127.0	131.0	110.3	131.6	126.0	128.2	125.5	
4	141.6	137.1	144.6	129.1	121.1	128.1	131.0	134.5	125.1	133.5	153.0	120.1	
5	141.1	130.5	145.1	132.1	128.5	120.5	123.5	128.1	120.1	135.0	135.0	133.7	
6	142.6	135.6	140.1	126.6	126.5	131.4	123.6	124.6	125.9	136.5	129.8	130.5	
7	140.7	133.6	137.6	127.0	123.1	127.0	126.0	130.1	135.1	144.1	133.5	128.0	
8	137.1	136.6	132.1	131.1	135.4	124.1	125.0	129.1	123.6	133.4	134.0	125.6	
9	135.6	135.6	139.6	125.7	137.0	131.1	126.6	125.6	128.6	128.7	128.4	129.1	
10	141.1	137.6	137.1	132.0	127.6	127.1	127.5	128.6	136.1	128.7	128.4	123.1	
11	149.1	133.9	136.1	127.8	135.6	124.8	122.0	122.6	123.5	134.0	130.6	133.4	
12	150.1	131.6	132.1	126.0	123.6	131.0	130.1	126.6	120.1	128.6	132.2	135.5	
13	143.8	131.6	134.6	129.1	130.1	131.5	122.1	127.6	134.4	132.6	129.6	133.6	
14	142.3	127.6	133.6	127.1	133.6	129.5	119.0	129.1	124.0	131.4	128.4	139.6	
15	137.2	130.6	134.6	133.0	157.1	126.5	128.0	128.5	157.0	131.4	135.3	132.6	
16	141.1	137.6	137.6	124.6	140.6	122.6	121.0	130.6	141.6	134.6	129.5	130.1	
17	140.6	133.6	131.5	125.5	136.1	128.1	129.6	125.6	128.9	132.5	136.4	126.0	
18	138.0	132.8	133.5	124.9	133.5	130.1	110.5	127.6	136.1	134.0	129.2	153.4	
19	140.6	133.1	139.7	124.3	135.4	127.5	154.6	130.6	136.6	133.0	132.0	145.6	
20	143.6	132.6	132.8	126.0	128.9	126.6	152.6	121.1	128.6	129.9	122.9	133.6	
21	132.6	132.6	133.1	126.9	129.7	124.1	145.0	123.0	129.6	128.2	126.3	137.9	
22	136.0	133.6	132.1	120.8	132.6	125.6	143.6	126.1	131.0	132.9	130.3	137.7	
23	134.1	140.6	137.9	129.0	130.6	123.6	144.1	132.5	123.6	127.7	126.6	155.7	
24	134.6	136.6	132.1	132.6	129.0	126.0	138.6	122.5	125.5	123.8	122.6	148.2	
25	133.6	138.1	131.1	129.4	129.5	121.5	136.6	130.1	134.0	130.6	129.0	126.4	
26	137.1	134.1	135.6	129.1	127.0	127.0	135.1	123.6	129.9	133.9	127.3	131.1	
27	134.1	133.1	130.1	132.6	133.1	126.6	129.1	132.1	131.6	129.2	123.1	138.7	
28	137.6	141.6	130.6	131.1	120.3	126.6	133.1	129.9	126.0	123.0	126.9	128.5	
29	133.7		130.9	130.1	129.0	127.1	132.1	128.4	136.6	129.0	133.3	144.3	
30	135.6		130.6	124.1	119.5	127.0	128.1	133.0	122.6	128.6	130.5	124.2	Annual
31	134.6		132.5		131.5		130.6	128.0		131.0		146.9	Summary
Average	138.8	134.7	137.0	128.1	130.6	126.6	130.8	127.4	129.7	131.0	130.5	134.0	131.6
Minimum	131.1	127.6	130.1	120.8	119.5	120.1	110.5	110.3	120.1	120.4	122.6	120.1	110
Maximum	150.1	141.6	156.1	133.0	157.1	131.5	154.6	134.5	157.0	144.1	153.0	155.7	163
Total	4302.6	3771.7	4083.3	3710.6	3926.8	3669.2	3923.7	3819.7	3768.2	3926.1	3779.0	4025.1	48034

Point Loma Wastewater Treatment Plant
2015 Daily Flows (mgd)



Point Loma Wastewater Treatment Plant
2015 Dry Weather Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	131.1	139.6		131.1	122.6	129.5		130.1	122.9	135.5	135.5	128.7	
2	143.6	137.1		126.5	133.6	120.1	124.6	130.6	121.6	120.4		126.9	
3	139.1	134.1	149.1	126.9	128.1	127.0	131.0	110.3	131.6	126.0		125.5	
4	141.6	137.1	144.6	129.1		128.1	131.0	134.5	125.1			120.1	
5	141.1	130.5	145.1	132.1	128.5	120.5	123.5	128.1	120.1		135.0	133.7	
6	142.6	135.6	140.1	126.6	126.5	131.4	123.6	124.6	125.9	136.5	129.8	130.5	
7	140.7	133.6	137.6	127.0		127.0		130.1	135.1	144.1	133.5	128.0	
8	137.1	136.6	132.1	131.1		124.1		129.1	123.6	133.4	134.0	125.6	
9	135.6	135.6	139.6	125.7		131.1	126.6	125.6	128.6	128.7		129.1	
10		137.6	137.1	132.0	127.6	127.1	127.5	128.6	136.1	128.7			
11		133.9	136.1	127.8	135.6		122.0	122.6		134.0	130.6		
12		131.6	132.1	126.0	123.6		130.1	126.6	120.1		132.2	135.5	
13	143.8	131.6	134.6	129.1	130.1		122.1	127.6	134.4	132.6	129.6		
14	142.3	127.6	133.6	127.1		129.5		129.1	124.0	131.4	128.4	139.6	
15	137.2	130.6	134.6	133.0		126.5	128.0	128.5		131.4		132.6	
16	141.1	137.6	137.6	124.6		122.6	121.0	130.6			129.5	130.1	
17	140.6	133.6	131.5	125.5	136.1	128.1	129.6	125.6	128.9		136.4	126.0	
18	138.0	132.8	133.5	124.9	133.5	130.1		127.6	136.1		129.2	153.4	
19	140.6	133.1	139.7	124.3	135.4	127.5		130.6	136.6	133.0	132.0		
20	143.6	132.6	132.8	126.0	128.9	126.6		121.1	128.6	129.9	122.9		
21	132.6	132.6	133.1	126.9		124.1		123.0		128.2	126.3		
22	136.0		132.1			125.6	143.6	126.1	131.0	132.9	130.3		
23	134.1		137.9	129.0		123.6	144.1	132.5	123.6	127.7	126.6		
24	134.6	136.6	132.1		129.0	126.0	138.6	122.5	125.5	123.8	122.6		
25	133.6	138.1	131.1			121.5	136.6		134.0	130.6			
26		134.1	135.6	129.1		127.0	135.1	123.6	129.9	133.9		131.1	
27	134.1		130.1	132.6	133.1		129.1	132.1	131.6	129.2		138.7	
28	137.6		130.6	131.1	120.3	126.6	133.1	129.9	126.0	123.0	126.9		
29			130.9	130.1	129.0	127.1	132.1	128.4	136.6	129.0	133.3	144.3	
30			130.6	124.1	119.5		128.1	133.0	122.6	128.6	130.5	124.2	Annual
31			132.5		131.5		130.6	128.0		131.0		146.9	Summary
Average	138.4	134.3	135.4	128.1	129.1	126.3	130.0	127.3	128.4	130.5	130.2	132.5	130.8
Minimum	131.1	127.6	130.1	124.1	119.5	120.1	121.0	110.3	120.1	120.4	122.6	120.1	110
Maximum	143.8	139.6	149.1	133.0	136.1	131.4	144.1	134.5	136.6	144.1	136.4	153.4	153
Total	3321.6	3222.9	3927.2	3327.8	2329.6	3028.3	2991.1	3689.6	3216.6	3127.9	2599.3	2521.4	38339

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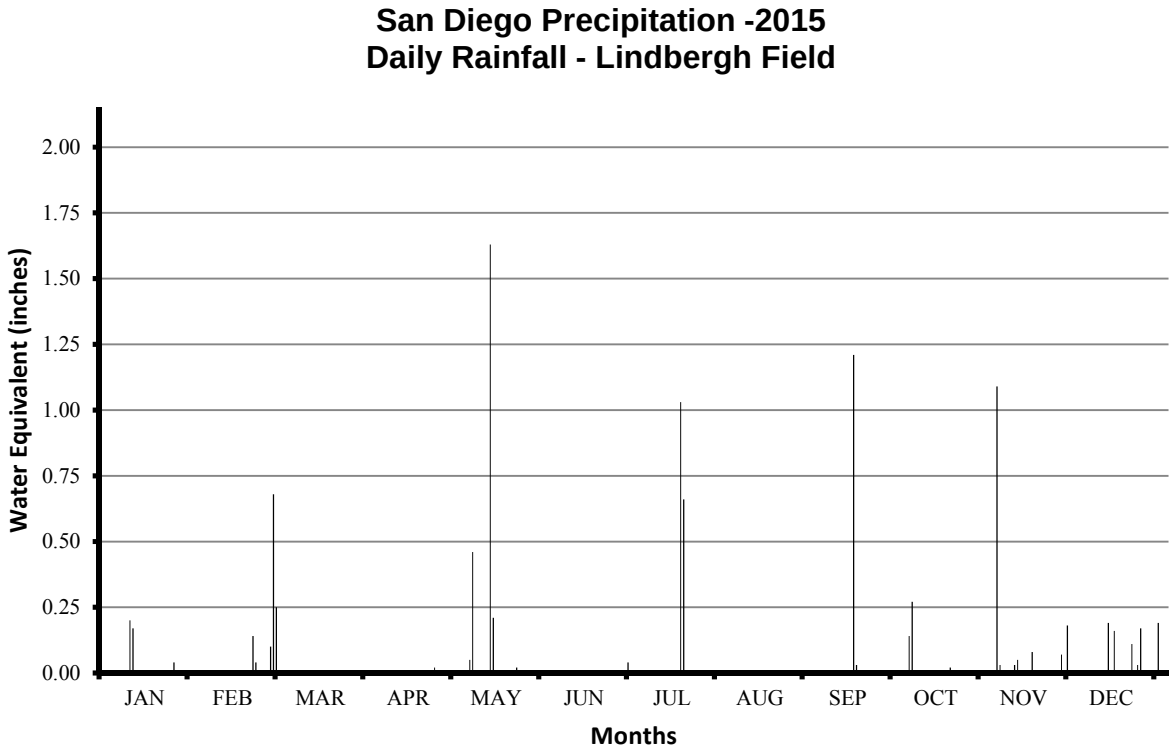
B. Rain Days


San Diego Precipitation -2015
Daily Rainfall - Lindbergh Field
Water Equivalent (inches)
2.00
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 – 2015
Daily Rainfall – Lindbergh Field

Total Annual Precipitation = 9.89 **Maximum=1.63** **Trace=0**

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Date	Rain	Date	Rain	Date	Rain	Date	Rain
10-Jan-15	T	22-Apr-15	T	1-Jul-15	0.01	4-Oct-15	0.14
11-Jan-15	0.2	24-Apr-15	T	7-Jul-15	T	5-Oct-15	0.27
12-Jan-15	0.17	25-Apr-15	0.02	8-Jul-15	T	12-Oct-15	T
26-Jan-15	0.04	4-May-15	T	14-Jul-15	T	16-Oct-15	T
29-Jan-15	T	7-May-15	0.05	18-Jul-15	1.03	17-Oct-15	T
30-Jan-15	T	8-May-15	0.46	19-Jul-15	0.66	18-Oct-15	0.02
31-Jan-15	0.01	9-May-15	T	20-Jul-15	T	2-Nov-15	T
22-Feb-15	0.14	14-May-15	1.63	21-Jul-15	0.01	3-Nov-15	1.09
23-Feb-15	0.04	15-May-15	0.21	25-Aug-15	0.01	4-Nov-15	0.03
27-Feb-15	T	16-May-15	T	11-Sep-15	T	9-Nov-15	0.03
28-Feb-15	0.1	21-May-15	0.01	15-Sep-15	1.21	10-Nov-15	0.05
1-Mar-15	0.68	22-May-15	0.01	16-Sep-15	0.03	15-Nov-15	0.08
2-Mar-15	0.25	23-May-15	0.02	21-Sep-15	T	25-Nov-15	0.07
		25-May-15	T			26-Nov-15	0.01
		26-May-15	T			27-Nov-15	0.18
		11-Jun-15	T			10-Dec-15	T
		12-Jun-15	T			11-Dec-15	0.19
		13-Jun-15	T			13-Dec-15	0.16
		27-Jun-15	T			19-Dec-15	0.11
		30-Jun-15	0.04			20-Dec-15	T
						21-Dec-15	0.03
						22-Dec-15	0.17
						23-Dec-15	0.01
						24-Dec-15	0.01
						25-Dec-15	0.01
						28-Dec-15	0.19
TOTALS	1.63		2.45		2.96		2.85

C. Solids Production

Point Loma Annual Monitoring Report
Solids Report – TOTALS

Year - 2015

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	34,518,181	6,082	34,518,181	3,469	62,817,651	913	10,947	2,994
02	31,159,062	5,422	31,159,062	3,194	52,961,438	860	8,785	2,452
03	34,180,782	6,333	34,180,782	3,529	55,835,548	781	9,215	2,537
04	32,939,727	5,991	32,939,727	3,375	60,216,147	929	11,968	3,260
05	34,918,565	6,188	34,918,565	3,560	64,697,288	1,027	11,443	3,148
06	32,817,165	5,874	32,817,165	3,396	64,230,986	1,018	11,092	3,042
07	33,507,033	6,031	33,507,033	3,379	66,738,645	996	11,850	3,171
08	34,187,832	5,889	34,187,832	3,455	67,112,396	1,101	10,991	2,982
09	31,328,698	5,792	31,328,698	3,310	61,212,340	1,223	11,344	3,099
10	30,660,950	5,754	30,660,950	3,336	62,671,881	1,210	10,588	2,828
11	30,685,345	5,449	30,685,345	3,233	61,655,562	866	10,754	2,858
12	32,307,441	5,849	32,307,441	3,301	66,766,833	925	12,233	3,293
avg	32,767,565	5,888	32,767,565	3,378	62,243,060	987	10,934	2,972
sum	393,210,781	70,653	393,210,781	40,537	746,916,715	11,849	131,208	35,664

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

Year - 2015

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
15-01	1,113,490	4.2	195	1,113,490	2.4	111	2,026,376	0.35	29.4	353	27.4	96.6
15-02	1,112,824	4.2	199	1,112,824	2.5	116	1,891,480	0.39	30.0	314	27.9	87.6
15-03	1,102,606	4.4	203	1,102,606	2.5	114	1,801,147	0.34	25.3	297	27.5	81.8
15-04	1,097,991	4.4	201	1,097,991	2.5	111	2,007,205	0.37	31.0	399	27.2	108.7
15-05	1,126,405	4.3	200	1,126,405	2.4	115	2,087,009	0.38	33.1	369	27.5	101.5
15-06	1,093,906	4.3	195	1,093,906	2.5	113	2,141,033	0.38	33.9	370	27.4	101.4
15-07	1,080,872	4.3	196	1,080,872	2.4	110	2,152,860	0.36	32.2	382	26.8	102.3
15-08	1,102,833	4.1	190	1,102,833	2.4	111	2,164,916	0.39	35.6	355	27.1	96.2
15-09	1,044,290	4.4	187	1,044,290	2.5	109	2,040,411	0.48	40.9	378	27.3	103.3
15-10	989,063	4.5	192	989,063	2.6	110	2,021,674	0.46	39.1	342	26.7	91.2
15-11	1,022,845	4.3	185	1,022,845	2.5	106	2,055,185	0.34	28.9	358	26.6	95.3
15-12	1,042,176	4.3	192	1,042,176	2.5	107	2,153,769	0.33	29.9	395	26.9	106.2
avg	1,077,442	4.3	195	1,077,442	2.5	111	2,045,255	0.38	32.4	359	27.2	97.7

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 - 2015

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	146,087	6,139			93,081	121	97	2,971	1,215	3,628	173,046	950	1,100	15,500
02	129,511	5,443			81,749	536	177	3,024	451	2,816	158,595	400	400	14,000
03	145,217	6,106			89,536	255	145	3,971	959	2,972	184,586	601	410	15,500
04	132,049	5,550			82,631	163	69	3,064	800	1,638	157,610	500	1,500	15,000
05	141,048	5,934			87,542	15	32	3,485	0	3,032	168,609	350	1,550	15,500
06	130,561	5,486			82,425	0	52	4,193	0	3,607	173,712	502	1,700	15,000
07	136,136	5,724			90,671	424	36	3,041	2,125	1,366	174,306	400	2,300	15,500
08	136,299	5,729			89,060	77	69	5,394	1,038	2,424	173,162	700	1,450	15,500
09	133,367	5,607			89,936	117	129	4,511	384	2,221	169,296	500	1,750	15,000
10	138,580	5,826			96,276	202	125	4,249	524	2,722	180,615	600	1,550	15,500
11	124,859	5,249			118,895	290	156	3,152	56	2,960	182,054	452	850	15,000
12	141,488	5,950			94,731	143	186	2,888	43	3,888	182,718	352	1,800	15,500
avg	136,267	5,729			91,378	195	106	3,662	633	2,773	173,192	526	1,363	15,208
sum	1,635,202	68,743			1,096,533	2,343	1,273	43,943	7,595	33,274	2,078,309	6,307	16,360	182,500

E. Gas Production

Point Loma Wastewater Treatment Plant
Gas Report - 2015

Daily Monthly Averages

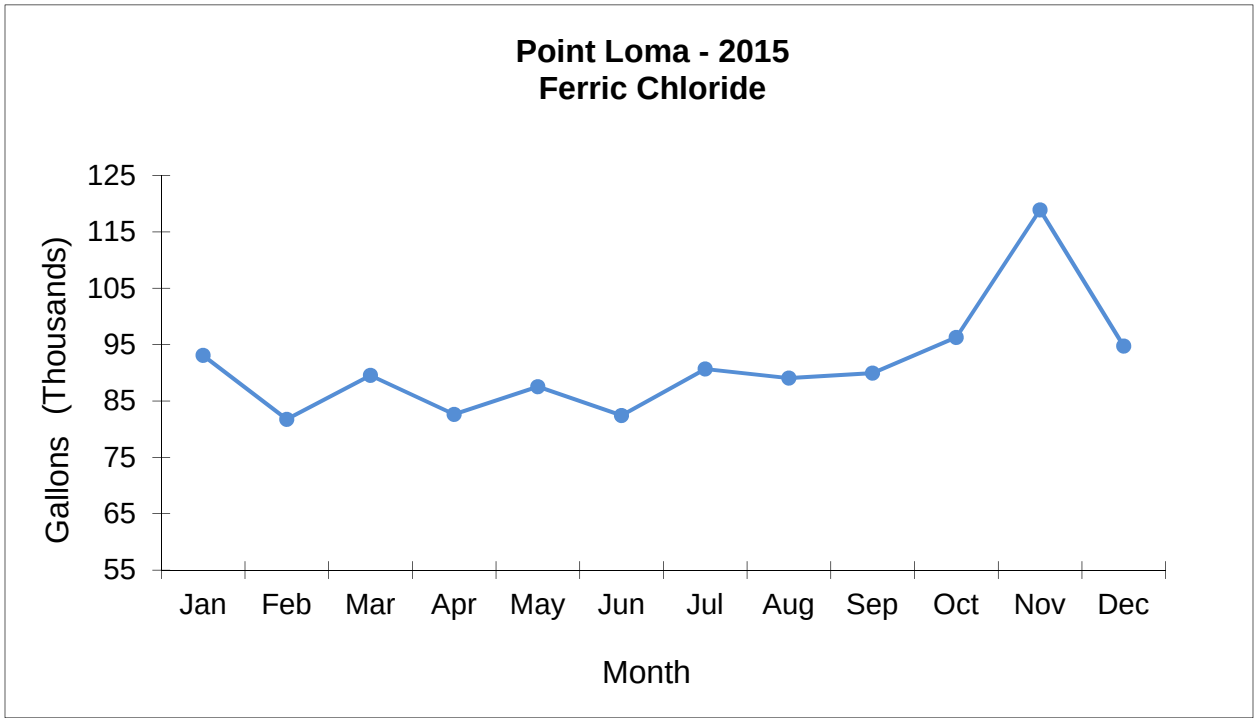
	GAS PRODUCTION (x1000 Cu. Ft.)						GAS CONSUMPTION (x1000 Cu. Ft.)						
Month	N-1-P	N-2-P	C-1-P	C-2-P	S-1-P	S-2-P	Dig 7	Dig 8	Total	Boilers	Burners	GUF	Total
01	*	*	561.2	522.8	662.3	381.7	96.7	810.0	2,128.0	106	178	1,837	2,122
02	43.8**	*	539.4	515.3	642.7	385.3	98.3	785.0	2,126.5	52	384	1,539	1,976
03	368.6	180.6**	440.9	432.3	549.0	391.4	85.2	707.8	2,362.9	80	497	1,663	2,240
04	361.5	513.0	379.6	387.8**	491.1	352.8	15.3**	646.3	2,485.9	51	109	1,843	2,003
05	378.3	532.6	377.6	*	528.7	377.1	*	734.8	2,194.3	67	88	1,685	1,839
06	426.5	501.8	368.8	20.2**	572.3	387.0	28.6**	757.7	2,276.6	46	342	1,839	2,227
07	421.3	470.4	373.7	200.5**	568.8	370.8	78.9	523.4	2,405.5	29	158	1,825	2,011
08	360.3	430.9	347.7	374.6	544.1	325.0	73.1	570.1	2,382.5	16	152	1,864	2,033
09	332.0	429.5	334.1	424.0	502.1	305.3	70.2	565.6	2,327.0	14	49	1,861	1,924
10	340.8	435.8	338.3	424.0	524.1	294.2	65.5	567.0	2,357.2	94	694	1,080	1,868
11	330.4	425.5	346.8	424.6	576.9	317.9	79.3	569.7	2,422.1	72	267	1,664	2,003
12	337.3	405.2	360.0	324.8	628.0	296.5	90.5	571.1	2,351.7	258	379	1,543	2,180
avg	308.4	360.4	397.4	368.3	565.8	348.7	65.1	650.7	2,318.4	74	275	1,687	2,035

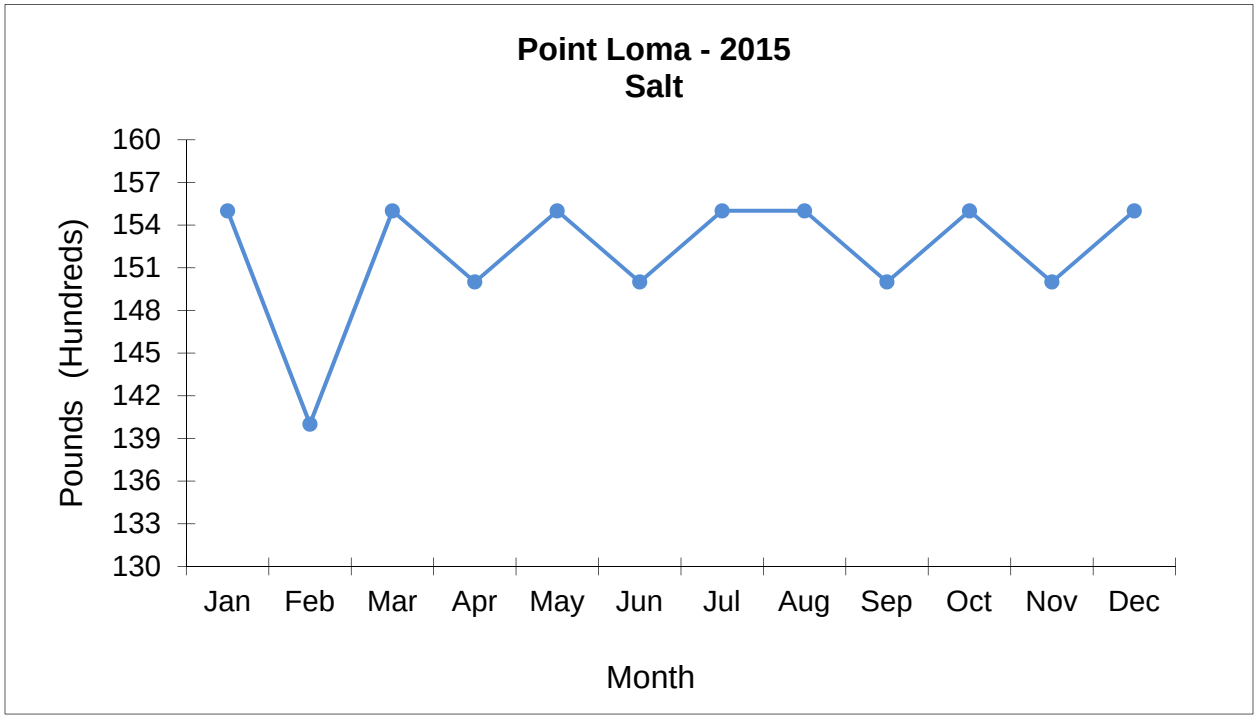
Monthly Totals

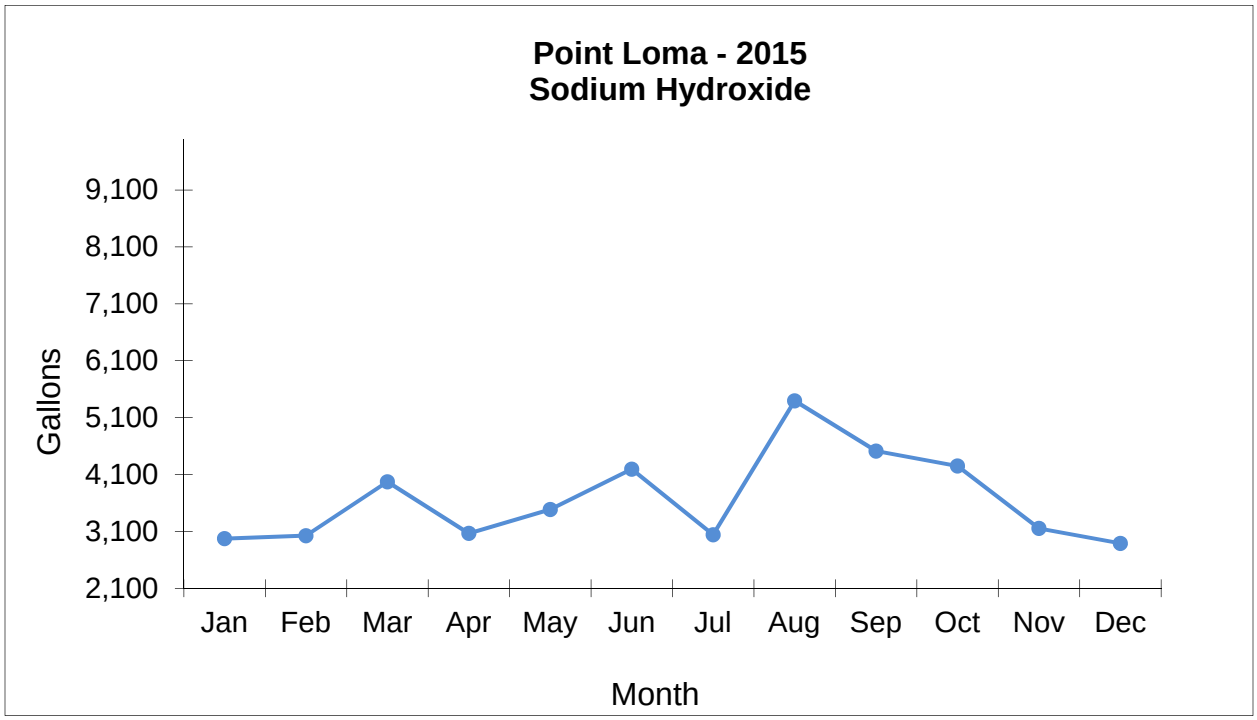
	GAS PRODUCTION (x1000 Cu. Ft.)						GAS CONSUMPTION (x1000 Cu. Ft.)						
Month	N-1-P	N-2-P	C-1-P	C-2-P	S-1-P	S-2-P	Dig 7	Dig 8	Total	Boilers	Burners	GUF	Total
01	*	*	17,397.0	16,208.0	20,530.0	11,833.0	2,997.0	25,111.0	65,968.0	3,296	5,512	56,961	65,769
02	1,227.0**	*	15,103.0	14,429.0	17,996.0	10,787.0	2,752.0	21,981.0	59,542.0	1,460	10,762	43,100	55,322
03	11,428.0	5,600.0**	13,669.0	13,400.0	17,020.0	12,133.0	2,641.0	21,942.0	73,250.0	2,472	15,419	51,552	69,443
04	10,846.0	15,389.0	11,389.0	11,635.0	14,734.0	10,584.0	460.0**	19,389.0	74,577.0	1,528	3,262	55,301	60,091
05	11,728.0	16,511.0	11,705.0	*	16,391.0	11,689.0	*	22,778.0	68,024.0	2,071	2,715	52,222	57,008
06	12,796.0	15,053.0	11,065.0	605.0**	17,169.0	11,610.0	857.0**	22,730.0	68,298.0	1,388	10,259	55,167	66,814
07	13,059.0	14,581.0	11,585.0	6,217.0**	17,634.0	11,495.0	2,446.0	16,225.0	74,571.0	894	4,892	56,563	62,349
08	11,169.0	13,358.0	10,779.0	11,612.0	16,867.0	10,074.0	2,266.0	17,674.0	73,859.0	500	4,721	57,793	63,014
09	9,959.0	12,886.0	10,024.0	12,720.0	15,062.0	9,160.0	2,107.0	16,968.0	69,811.0	429	1,457	55,833	57,719
10	10,565.0	13,510.0	10,488.0	13,143.0	16,246.0	9,121.0	2,030.0	17,577.0	73,073.0	2,908	21,528	33,471	57,907
11	9,912.0	12,765.0	10,405.0	12,738.0	17,306.0	9,536.0	2,380.0	17,092.0	72,662.0	2,158	8,003	49,932	60,093
12	10,455.0	12,560.0	11,159.0	10,070.0	19,468.0	9,190.0	2,804.0	17,704.0	72,902.0	7,993	11,751	47,848	67,592
avg	9,428.7	11,017.8	12,064.0	11,161.5	17,201.9	10,601.0	1,978.3	19,764.3	70,544.8	2,258	8,357	51,312	61,927
sum	113,144.0	132,213.0	144,768.0	122,777.0	206,423.0	127,212.0	23,740.0	237,171.0	846,537.0	27,097	100,281	615,743	743,121

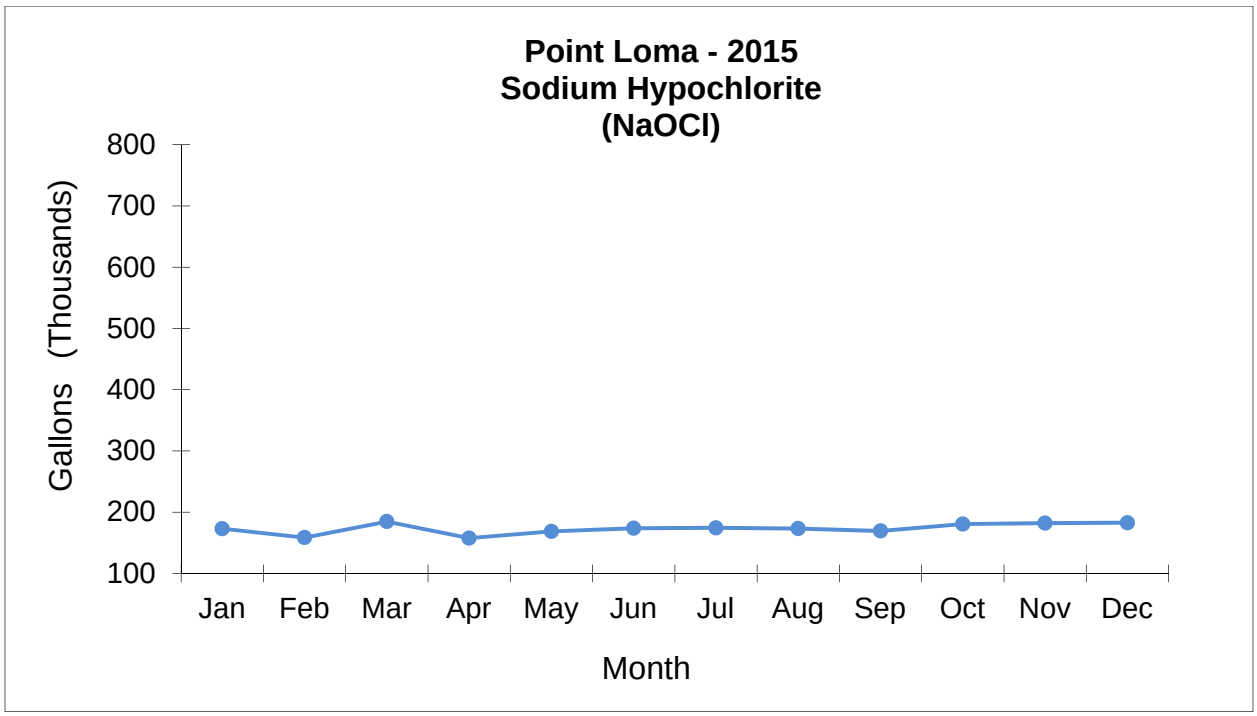
*Not in service. Digester cleaning and/or Digester roof repairs, so Digesters were off-line.
**Not in service. Digesters going off-line or coming on-line from cleaning and/or repairs.

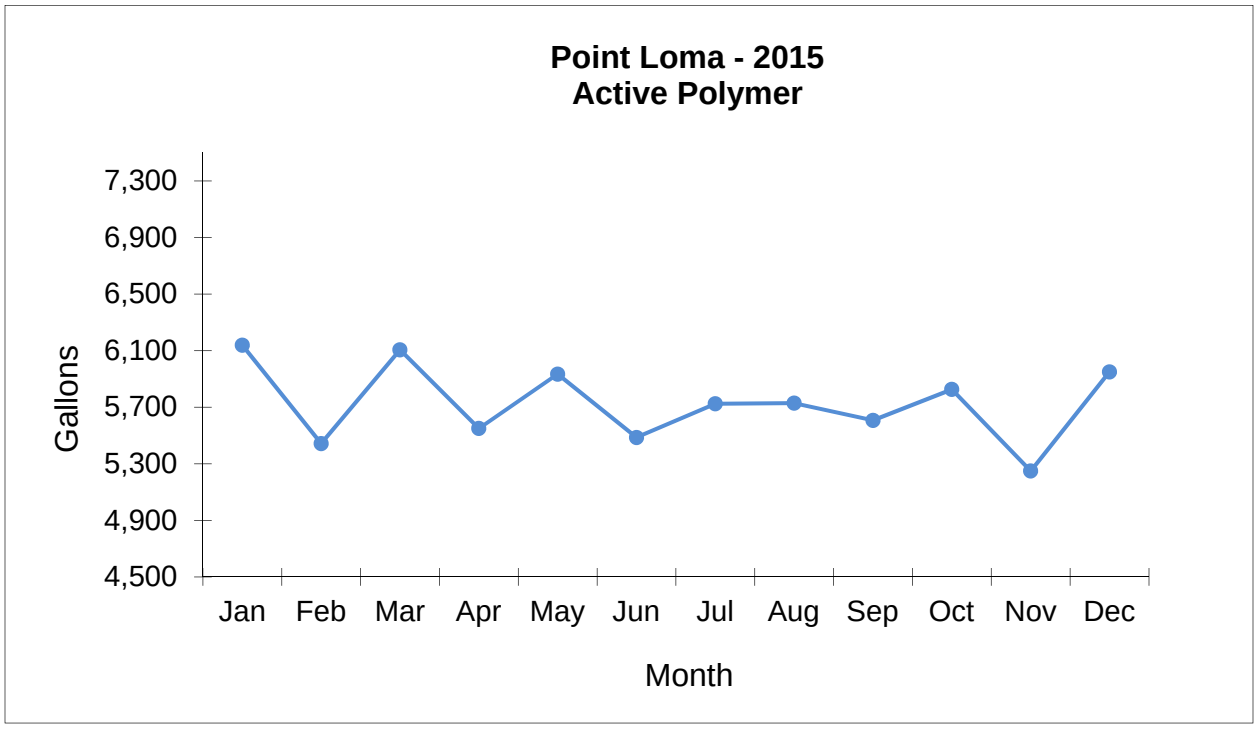
F. Graphs of Chemical Usage






Point Loma - 2015
Sodium Hydroxide
9,100
8,100
7,100
6,100
5,100
4,100
3,100
2,100
Gallons
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Point Loma - 2015
Sodium Hypochlorite
(NaOCl)
800
700
600
500
400
300
200
100
Gallons (Thousands)
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Point Loma - 2015
Active Polymer
7,300
6,900
6,500
6,100
5,700
5,300
4,900
4,500
Gallons
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

G. Grit and Screenings

The following are reports of the analyses of grit samples taken from the Pt. Loma WWTP headworks (grit removal chambers) in 2015. 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 2015- Monthly Total Solids Averages (%WT)

Grit		Headworks Screenings		Sludge Screenings	
JAN	48.3	JAN	45.9	JAN	40.5
FEB	47.1	FEB	43.0	FEB	40.0
MAR	45.2	MAR	46.7	MAR	40.1
APR	44.8	APR	46.2	APR	39.8
MAY	52.7	MAY	47.2	MAY	38.2
JUN	54.5	JUN	45.3	JUN	37.0
JUL	54.6	JUL	46.8	JUL	38.0
AUG	54.6	AUG	49.0	AUG	38.3
SEP	53.8	SEP	43.3	SEP	40.0
OCT	52.9	OCT	47.0	OCT	39.7
NOV	57.7	NOV	49.8	NOV	39.4
DEC	75.4	DEC	45.1	DEC	39.5
AVG	**53.5**	**AVG**	**46.3**	**AVG**	**39.2**

Point Loma Wastewater Treatment Plant

2015 Grit Total Solid (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	48.3	40.6	67.0
FEB	47.1	36.0	70.0
MAR	45.2	34.2	53.3
APR	44.8	34.5	56.0
MAY	52.7	36.4	91.5
JUN	54.5	38.5	68.3
JUL	54.6	41.4	70.7
AUG	54.6	46.4	64.3
SEP	53.8	41.9	64.1
OCT	52.9	35.9	62.3
NOV	57.7	40.2	85.3
DEC	75.4	68.6	88.3

2015 Sludge Screenings Total Solids (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	40.5	35.8	51.1
FEB	40.0	36.8	42.8
MAR	40.1	35.5	48.7
APR	39.8	36.7	43.0
MAY	38.2	34.7	42.3
JUN	37.0	34.7	40.3
JUL	38.0	31.5	41.4
AUG	38.3	34.4	42.9
SEP	40.0	36.4	44.6
OCT	39.7	36.5	43.6
NOV	39.4	34.9	42.3
DEC	39.5	33.6	50.5

2015 Headworks Screenings Total Solids (%WT)

	Average	Minimum	Maximum
	%WT	%WT	%WT
JAN	45.9	39.4	85.4
FEB	43.0	29.7	53.6
MAR	46.7	29.0	59.4
APR	46.2	31.8	62.4
MAY	47.2	35.1	61.1
JUN	45.3	36.0	61.6
JUL	46.8	35.9	67.3
AUG	49.0	36.7	72.8
SEP	43.3	34.9	50.6
OCT	47.0	38.5	57.1
NOV	49.8	42.5	61.8
DEC	45.1	37.0	69.9

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge

2015 Annual

Source: PLR
Sample ID: P785808
Sample Date: 01-JUN-15

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	1.3	.75	500	*	15.00		
Arsenic	.07	MG/KG	1.42	.82	500	*	5.00	41	
Barium	.05	MG/KG	105	60.9	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	.6	.35	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	33.8	19.6	2500	*	560.00		
Cobalt	.2	MG/KG	3	1.74	8000	*	80.00		
Copper	.4	MG/KG	452	262.2	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	28	16.2	1000	*	5.00	300	350
Mercury	.2	MG/KG	.28	.162	20	*	.20	17	
Molybdenum	.1	MG/KG	4	2.32	3500	*	350.00		
Nickel	.3	MG/KG	97.2	56.4	2000	*	20.00	420	2,000
Selenium	.07	MG/KG	.76	.44	100	*	1.00	100	
Silver	.07	MG/KG	2.97	1.72	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	12.3	7.13	2400	*	24.00		
Zinc	.5	MG/KG	249	144.4	5000	*	250.00	2,800	
Total Solids		WT%	58						
Total Volatile Solids		WT%	33.1						
pH		PH	7.13		>2 - <12				
Aldrin	.001	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.001	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.001	MG/KG	ND	ND	1.0	*	.10		
2,4-D	.07	MG/KG	ND	ND	100	*	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.002	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.002	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	.0009	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	.001	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)	.67	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.05	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		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

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)
Metro Biosolids Center Dewatered Sludge

2015 Annual

Source: PLR
Sample ID: P814578
Sample Date: 02-NOV-15

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	1.4	.76	500	*	15.00		
Arsenic	.35	MG/KG	1.37	.75	500	*	5.00	41	
Barium	.05	MG/KG	108	58.75	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	.2	.109	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	30.8	16.75	2500	*	560.00		
Cobalt	.2	MG/KG	3.1	1.68	8000	*	80.00		
Copper	.4	MG/KG	264	143.6	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	23	12.5	1000	*	5.00	300	350
Mercury	.2	MG/KG	.3	.163	20	*	.20	17	
Molybdenum	.1	MG/KG	4.5	2.45	3500	*	350.00		
Nickel	.3	MG/KG	24.9	29.87	2000	*	20.00	420	2,000
Selenium	.35	MG/KG	.79	.43	100	*	1.00	100	
Silver	.07	MG/KG	.44	.239	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	15.6	8.48	2400	*	24.00		
Zinc	.5	MG/KG	281	152.9	5000	*	250.00	2,800	
Total Solids	0	WT%	54.4						
Total Volatile Solids	.11	WT%	44.9						
pH		PH	7.13		>2 - <12				
Aldrin	.001	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.001	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.001	MG/KG	ND	ND	1.0	*	.10		
2,4-D	.093	MG/KG	ND^	ND^	100	*	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.002	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.002	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	.0009	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	.001	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)	.67	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.05	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP	.044	MG/KG	ND^	ND^	10	*	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

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.
^ = LCS or LCSD is outside acceptance limits. Result exceeded calibration range. Value is not reportable.

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY GRIT COMPOSITES
Inorganics and Organics

2015 Annual

Source			GRIT COMP	GRIT COMP
Date			01-JUN-2015	02-NOV-2015
Analyte	MDL	Units:	P785808	P814578
Aluminum	4	MG/KG	2230	2850
Antimony	.5	MG/KG	1.3	1.4
Arsenic	.35	MG/KG	1.42	1.37
Barium	.05	MG/KG	105.0	108.0
Beryllium	.02	MG/KG	ND	ND
Cadmium	.1	MG/KG	0.6	0.2
Chromium	.3	MG/KG	33.8	30.8
Cobalt	.2	MG/KG	3.0	3.1
Copper	.4	MG/KG	452	264
Iron	20	MG/KG	22100	27700
Lead	2	MG/KG	28	23
Manganese	.2	MG/KG	104	164
Mercury	.2	MG/KG	0.28	0.30
Molybdenum	.1	MG/KG	4.0	4.5
Nickel	.3	MG/KG	97	25
Selenium	.35	MG/KG	0.76	0.79
Silver	.07	MG/KG	3.0	0.4
Thallium	1	MG/KG	ND	ND
Vanadium	.2	MG/KG	12.3	15.6
Zinc	.5	MG/KG	249	281
pH		PH	7.13	7.13
Total Solids	.24	WT%	58.0	54.4
Total Volatile Solids	.11	WT%	33.1	44.9
Aldrin	640	MG/KG	ND	ND
2,4-Dichlorophenoxyacetic acid	.093	MG/KG	ND	ND^
Dieldrin	1700	MG/KG	ND	ND
Endrin	1890	MG/KG	ND	ND
Heptachlor	1700	MG/KG	ND	ND
BHC, Gamma isomer	430	MG/KG	ND	ND
Methoxychlor	1460	MG/KG	ND	ND
Pentachlorophenol	1170	MG/KG	ND	ND
Toxaphene	48660	MG/KG	ND	ND
Trichloroethene	2.6	MG/KG	ND	ND
2,4,5-TP (Silvex)	.044	MG/KG	ND	ND^

^ = LCS or LCSD is outside acceptance limits. Result exceeded calibration range. Value is not reportable.

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

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT- Chlorinated Pesticide Analysis

2015 Annual

Grit

Source			PLR	PLR
Date			01-JUN-2015	02-NOV-2015
Analyte	MDL	Units	P785808	P814578
Aldrin	640	NG/KG	ND	ND
Dieldrin	1700	NG/KG	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND
BHC, Gamma isomer	430	NG/KG	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND
o,p-DDD	970	NG/KG	ND	ND
o,p-DDE	640	NG/KG	ND	ND
o,p-DDT	940	NG/KG	ND	ND
p,p-DDD	690	NG/KG	ND	ND
p,p-DDE	700	NG/KG	ND	ND
p,p-DDT	840	NG/KG	ND	ND
Heptachlor	1700	NG/KG	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND
Alpha Chlordene		NG/KG	NA	NA
Gamma Chlordene		NG/KG	NA	NA
Oxychlordane	360	NG/KG	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND
Alpha Endosulfan	760	NG/KG	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND
Endrin	1890	NG/KG	ND	ND
Endrin aldehyde	1000	NG/KG	ND	ND
Toxaphene	48660	NG/KG	ND	ND
Mirex	680	NG/KG	ND	ND
Methoxychlor	1460	NG/KG	ND	ND
PCB 1016	83300	NG/KG	ND	ND
PCB 1221	667000	NG/KG	ND	ND
PCB 1232	500000	NG/KG	ND	ND
PCB 1242	66860	NG/KG	ND	ND
PCB 1248	83300	NG/KG	ND	ND
PCB 1254	83300	NG/KG	ND	ND
PCB 1260	333000	NG/KG	ND	ND
PCB 1262	83300	NG/KG	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0
DDT and derivatives	970	NG/KG	0	0
Chlordane + related cmpds.	1000	NG/KG	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0

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

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT- ANALYSIS-ACID EXTRACTABLE COMPOUNDS

2015 Annual

Source			PLR	PLR
Date			01-JUN-2015	02-NOV-2015
Analyte	MDL	Units	P785808	P814578
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

Annual 2015

Source:			PLR	PLR
Date:			01-JUN-2015	02-NOV-2015
Sample:	MDL	Units	P785808	P814578
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	ND
Benzo[g,h,i]perylene	301	UG/KG	ND	ND
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	ND	<352
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	11700	7700
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	380	540
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	ND
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	0
Total Dichlorobenzenes	733	UG/KG	0	0
Base/Neutral Compounds	3960	UG/KG	12080	8240

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

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT - Priority Pollutants Purgeable Compounds

2015 Annual

Source			PLR	PLR
Date			01-JUN-2015	02-NOV-2015
Analyte	MDL	Units	P785808	P814578
Acrolein	6.4	UG/KG	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND
Benzene	2.1	UG/KG	ND	ND
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	DNQ10.0	DNQ3.3
Chloroethane	3.6	UG/KG	ND	ND
Chloroform	2.3	UG/KG	ND	DNQ5.1
Chloromethane	3.4	UG/KG	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	49.0	68.9
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	DNQ6.0	DNQ8.8
Methylene chloride	3.5	UG/KG	ND	ND
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	23.3
Toluene	1.2	UG/KG	76.0	192
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	125.0	215.3

Additional volatile organic compounds determined;

Acetone	31.4	UG/KG	3760	5350
Allyl chloride	3.6	UG/KG	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND
2-Butanone	36.3	UG/KG	1030	1080
Carbon disulfide	4.7	UG/KG	35.0	64.9
Chloroprene	3.1	UG/KG	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	ND
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	DNQ7.2
Styrene	1.7	UG/KG	9.0	17.3
1,2,4-Trichlorobenzene	979	UG/KG	ND	ND
meta,para xylenes	4.2	UG/KG	17.0	DNQ15.6
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

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
GRIT - Herbicides

2015 Annual

Source			PLR	PLR
Date			01-JUN-2015	02-NOV-2015
Analyte	MDL	Units	P785808	P814578
2,4-Dichlorophenoxyacetic acid	.0693	MG/KG	ND	ND^
2,4,5-TP (Silvex)	.0327	MG/KG	ND	ND^

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

^ = LCS or LCSD is outside acceptance limits. Result exceeded calibration range. Value is not reportable.

H. Raw Sludge Data Summary

Raw Sludge
Monthly average of daily average

Month	pH	%Total Solids	%Total Volatile Solids
January	5.63	4.2	78.0
February	5.65	4.2	78.3
March	5.45	4.5	78.5
April	5.61	4.4	78.0
May	5.63	4.3	78.5
June	5.55	4.3	79.1
July	5.52	4.3	76.9
August	5.58	4.1	77.3
September	5.49	4.4	76.4
October	5.33	4.5	76.8
November	5.40	4.3	77.3
December	5.60	4.3	78.4
Averages	**5.54**	**4.3**	**77.8**

I. Digester and Digested Sludge Data Summary

Point Loma Wastewater Treatment Plant Annual Report
Digesters
Year: 2015

N1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	*	*	*	*	*	*	*
FEBRUARY -2015	7.20	2.3	58.6	2330	52	62.1	37.6
MARCH -2015	7.02	2.4	59.3	2340	67	61.6	38.2
APRIL -2015	7.07	2.5	59.2	2390	93	61.8	38.0
MAY -2015	7.06	2.5	59.4	2260	99	61.6	38.3
JUNE -2015	7.04	2.5	60.6	2090	93	61.7	38.0
JULY -2015	7.01	2.5	59.3	1940	72	61.6	38.1
AUGUST -2015	7.00	2.4	58.1	1870	67	61.4	38.3
SEPTEMBER-2015	6.93	2.5	58.5	1580	69	61.0	38.6
OCTOBER -2015	7.09	2.6	58.8	1810	70	61.9	37.8
NOVEMBER -2015	7.07	2.5	58.1	2080	71	62.0	37.8
DECEMBER -2015	7.10	2.4	58.2	2210	78	62.3	37.5
Average:	7.05	2.5	58.9	2082	76	61.7	38.0

N2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	*	*	*	*	*	*	*
FEBRUARY -2015	*	*	*	*	*	*	*
MARCH -2015	7.05	2.2	57.6	2440	70	61.6	38.4
APRIL -2015	7.08	2.2	59.8	2340	75	61.8	38.0
MAY -2015	7.09	2.4	59.9	2240	77	61.7	38.1
JUNE -2015	7.06	2.4	60.3	2070	87	61.8	38.0
JULY -2015	7.02	2.4	59.1	1920	71	61.5	38.1
AUGUST -2015	7.03	2.4	58.3	1850	65	61.4	38.4
SEPTEMBER-2015	6.91	2.4	58.5	1570	67	61.1	38.5
OCTOBER -2015	7.06	2.6	58.7	1800	70	61.8	37.8
NOVEMBER -2015	7.06	2.5	58.1	2100	71	62.0	37.7
DECEMBER -2015	7.11	2.4	58.5	2170	75	62.4	37.5
Average:	7.05	2.4	58.9	2050	73	61.7	38.1

C1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	6.98	2.4	60.2	2130	49	61.9	37.9
FEBRUARY -2015	6.95	2.3	60.5	2080	46	61.7	38.1
MARCH -2015	6.98	2.3	60.0	2190	61	61.8	38.0
APRIL -2015	7.07	2.4	59.3	2250	75	62.0	37.8
MAY -2015	7.05	2.4	59.3	2110	73	61.9	37.9
JUNE -2015	7.03	2.5	61.3	1960	86	62.0	37.7
JULY -2015	7.02	2.4	58.9	1860	69	61.8	37.9
AUGUST -2015	6.99	2.4	57.8	1800	65	61.6	38.1
SEPTEMBER-2015	6.90	2.4	58.2	1490	66	61.4	38.3
OCTOBER -2015	7.05	2.6	58.4	1760	73	62.0	37.8
NOVEMBER -2015	7.03	2.5	57.8	2050	70	62.2	37.5
DECEMBER -2015	7.07	2.4	58.1	2170	79	62.5	37.3
Average:	7.01	2.4	59.2	1988	68	61.9	37.9

*Not in service. Digester cleaning and/or Digester roof repairs, so Digesters were off-line.

Point Loma Wastewater Treatment Plant Annual Report
Digesters
Year: 2015

C2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	7.02	2.4	59.4	2240	50	62.0	37.8
FEBRUARY -2015	6.99	2.4	59.1	2180	47	61.8	37.9
MARCH -2015	7.02	2.4	59.3	2260	61	61.8	37.9
APRIL -2015	7.09	2.4	58.7	2350	73	62.0	37.7
MAY -2015	7.11	2.4	57.8	2410	78	62.9	36.9
JUNE -2015	7.19	2.4	54.9	2770	153	60.0	37.0
JULY -2015	7.14	2.2	55.7	2450	90	62.0	37.7
AUGUST -2015	7.02	2.3	57.3	1930	64	61.7	38.0
SEPTEMBER-2015	6.93	2.5	58.0	1580	69	61.4	38.2
OCTOBER -2015	7.03	2.6	58.5	1790	73	62.1	37.6
NOVEMBER -2015	7.04	2.5	57.9	2070	70	62.2	37.5
DECEMBER -2015	7.08	2.4	58.3	2150	82	62.4	37.2
Average:	7.06	2.4	57.9	2182	76	61.9	37.6

S1P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2015	6.97	2.5	61.6	2030	49	61.7	38.0	
FEBRUARY -2015	6.97	2.6	61.0	2030	46	61.8	38.0	
MARCH -2015	6.97	2.7	61.0	2190	63	61.8	38.0	
APRIL -2015	7.07	2.6	60.8	2300	79	62.0	37.7	
MAY -2015	7.04	2.5	60.8	2130	82	61.8	37.9	
JUNE -2015	7.00	2.5	61.3	1860	93	61.9	37.8	
JULY -2015	6.99	2.5	61.0	1790	84	61.8	38.0	
AUGUST -2015	7.00	2.6	59.9	1870	85	61.5	38.2	
SEPTEMBER-2015	6.87	2.7	60.3	1250	73	61.4	38.3	
OCTOBER -2015	7.02	2.7	60.3	1660	76	62.0	37.7	
NOVEMBER -2015	7.04	2.6	60.4	1930	86	62.0	37.7	
DECEMBER -2015	7.02	2.6	60.7	1850	81	62.3	37.4	32
Average:	7.00	2.6	60.8	1908	75	61.8	37.9	32

S2P

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2015	7.02	2.4	60.4	2200	56	62.0	37.8	28
FEBRUARY -2015	7.01	2.3	60.5	2170	47	61.8	37.9	26
MARCH -2015	7.00	2.5	60.9	2150	63	61.8	38.0	31
APRIL -2015	7.09	2.5	60.5	2180	74	61.9	37.8	27
MAY -2015	7.05	2.5	60.5	2090	78	61.8	37.9	28
JUNE -2015	7.02	2.5	60.6	1870	90	61.9	37.8	30
JULY -2015	7.02	2.5	60.2	1750	76	61.9	37.9	35
AUGUST -2015	6.98	2.4	59.1	1640	67	61.7	38.0	35
SEPTEMBER-2015	6.89	2.5	59.6	1340	69	61.4	38.3	28
OCTOBER -2015	7.09	2.6	59.8	1650	70	62.1	37.7	26
NOVEMBER -2015	7.07	2.5	59.3	1970	75	62.2	37.5	28
DECEMBER -2015	7.10	2.4	59.4	2090	81	62.4	37.3	29
Average:	7.03	2.5	60.1	1925	71	61.9	37.8	29

Point Loma Wastewater Treatment Plant Annual Report
Digesters
Year: 2015

DIG 7

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	7.08	2.2	58.9	2300	52	63.2	36.4
FEBRUARY -2015	7.08	2.2	59.1	2260	46	63.3	36.4
MARCH -2015	7.12	2.2	59.3	2290	60	63.4	36.2
APRIL -2015	7.14	2.3	59.9	2290	71	*	*
MAY -2015	7.05	2.4	59.8	2110	73	*	*
JUNE -2015	7.08	2.4	60.8	2070	96	58.6	36.3
JULY -2015	7.08	2.2	59.1	1990	72	63.0	36.6
AUGUST -2015	7.06	2.2	57.8	1880	69	63.1	36.4
SEPTEMBER-2015	6.97	2.3	57.9	1570	69	62.9	36.6
OCTOBER -2015	7.08	2.5	58.5	1850	70	63.4	36.2
NOVEMBER -2015	7.10	2.4	58.0	2130	70	63.5	36.2
DECEMBER -2015	7.13	2.3	58.2	2220	80	63.8	35.9
Average:	7.08	2.3	58.9	2080	69	62.8	36.3

DIG 8

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)
JANUARY -2015	7.04	2.4	60.4	2150	47	61.6	38.1
FEBRUARY -2015	7.01	2.3	60.8	2090	45	61.6	38.1
MARCH -2015	7.01	2.4	60.8	2170	61	61.6	38.0
APRIL -2015	7.08	2.4	60.5	2180	71	61.6	38.0
MAY -2015	7.04	2.4	60.4	2030	68	61.5	38.2
JUNE -2015	7.00	2.5	61.3	1860	82	61.7	38.0
JULY -2015	7.05	2.4	59.9	1850	73	61.7	38.0
AUGUST -2015	7.01	2.3	58.7	1750	63	61.5	38.0
SEPTEMBER-2015	6.93	2.5	58.9	1440	69	61.2	38.5
OCTOBER -2015	7.04	2.6	59.1	1710	70	61.8	37.9
NOVEMBER -2015	7.06	2.5	58.4	2020	72	62.0	37.8
DECEMBER -2015	7.13	2.4	58.6	2130	78	62.3	37.6
Average:	7.03	2.4	59.8	1948	67	61.7	38.0

*Not in service. Digester cleaning and/or Digester roof repairs, so Digesters were off-line.

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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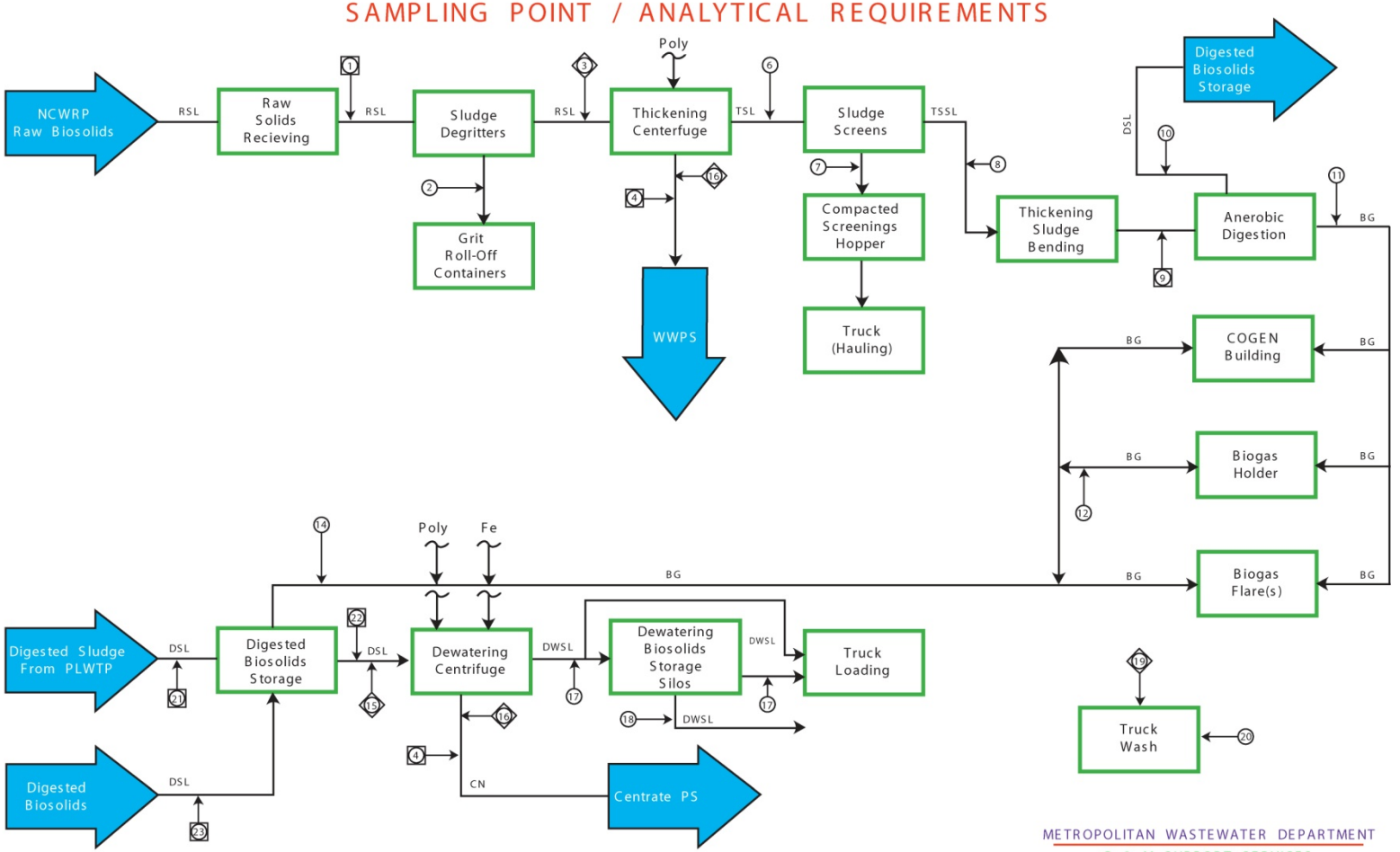
A. MBC Diagrams

METROPOLITAN BIOSOLIDS CENTER
PROCESS FLOW DIAGRAM
SAMPLING POINT / ANALYTICAL REQUIREMENTS



METROPOLITAN WASTEWATER DEPARTMENT
O & M SUPPORT SERVICES

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	Thickened Biosolids: Total Solids, Volatile Solids, pH
6	Sludge Screening: Volitile Solids, % Moisture
7	Thickened Screen Sludge: Total Sludge, Volatile Solids
8	

LOCATION	DESCRIPTION
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	Biogas from Digestion: Methane (CH_4), Carbon Dioxide (CO_2), Hydrogen Sulfide (H_2S)
12	Biogas to Biogas Holder: Methane (CH_4), Carbon Dioxide (CO_2), H_2S
13	Biogas from Digestion: Methane (CH_4), Carbon Dioxide (CO_2)
14	Dewatering Centrifuge Feed Loop (76 DE 2502): Total Solids
15	

LOCATION	DESCRIPTION
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 2015. This return stream is continuously sampled by a flow proportioned, autosampler connected to the return stream lines at MBC. Each 24-hour13 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

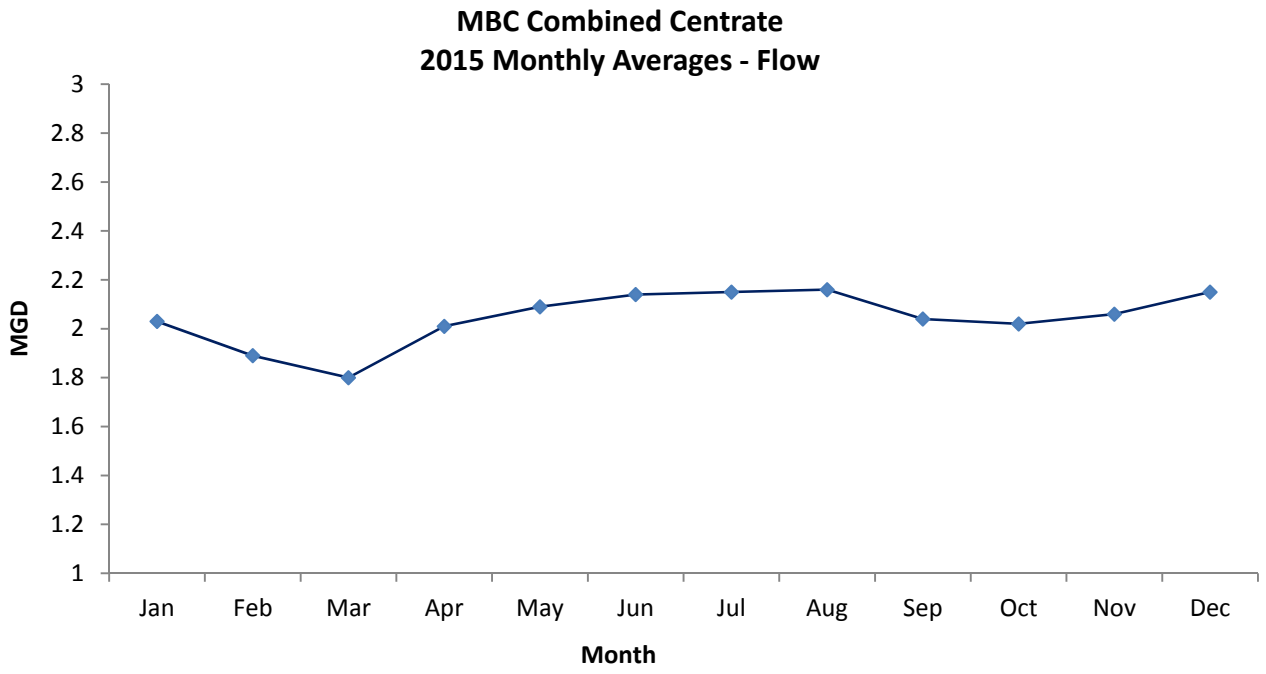
Sludge Project – Annual Summary

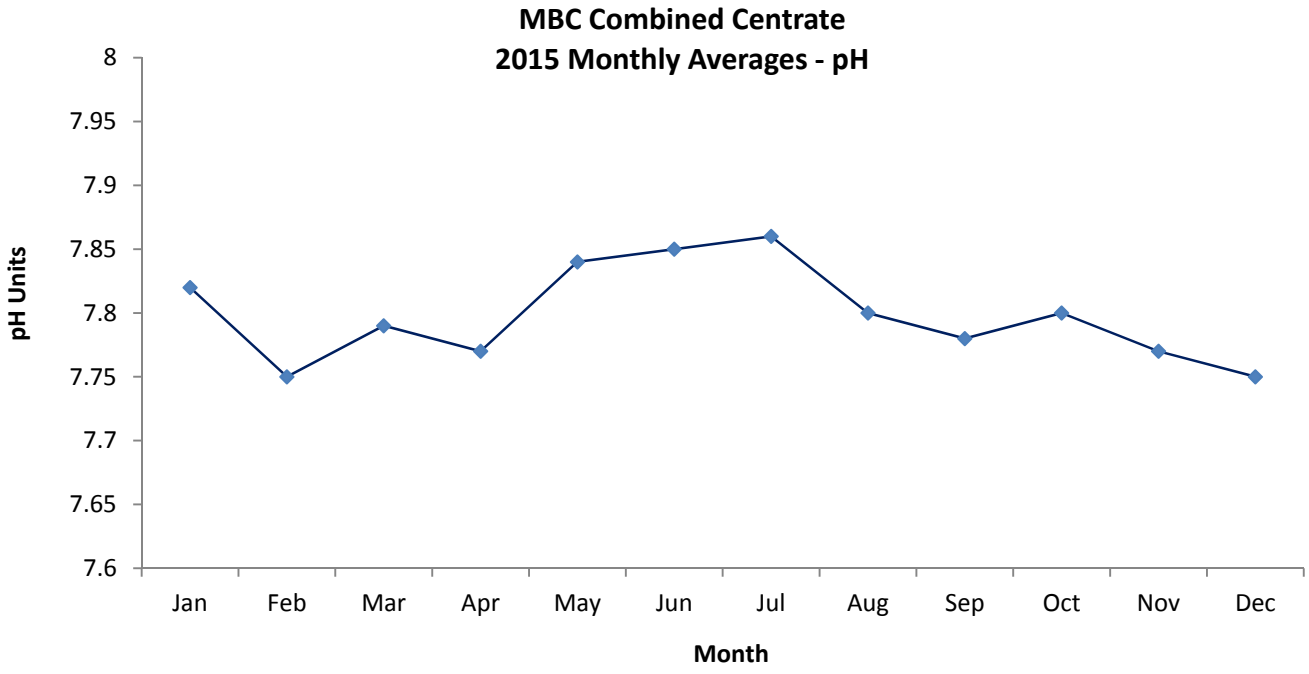
Combined Sludge Concentrate

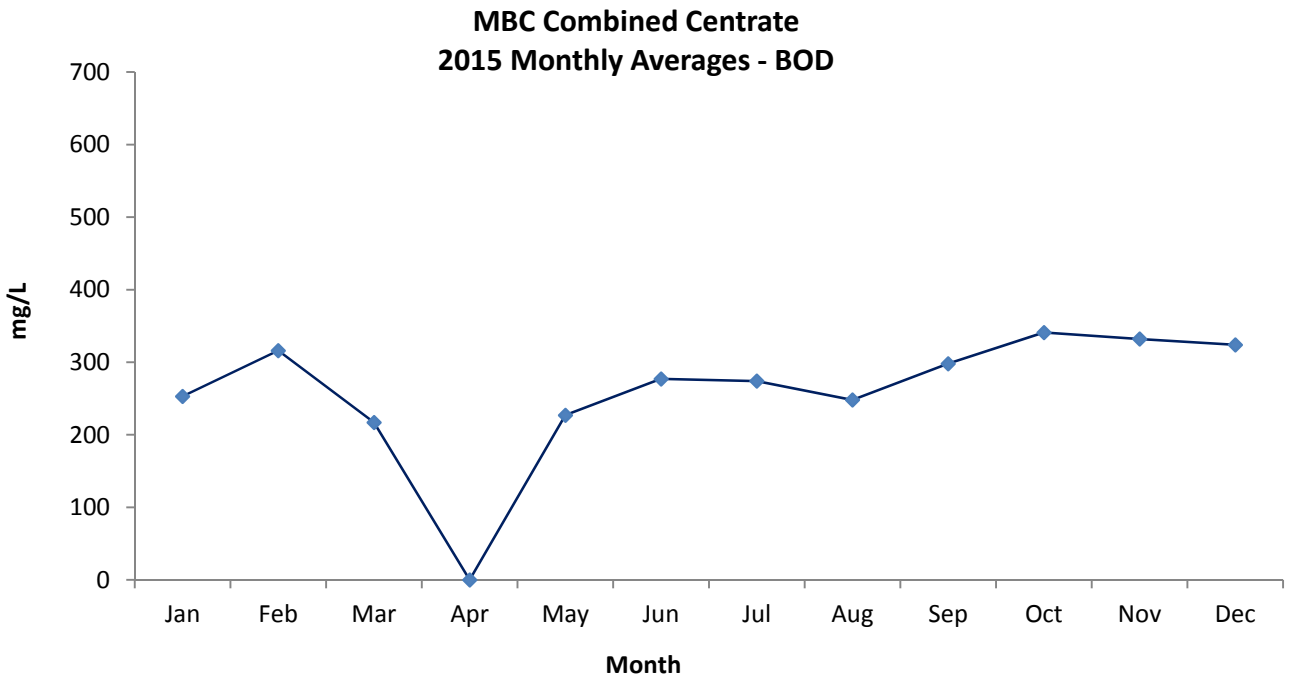
Annual 2015

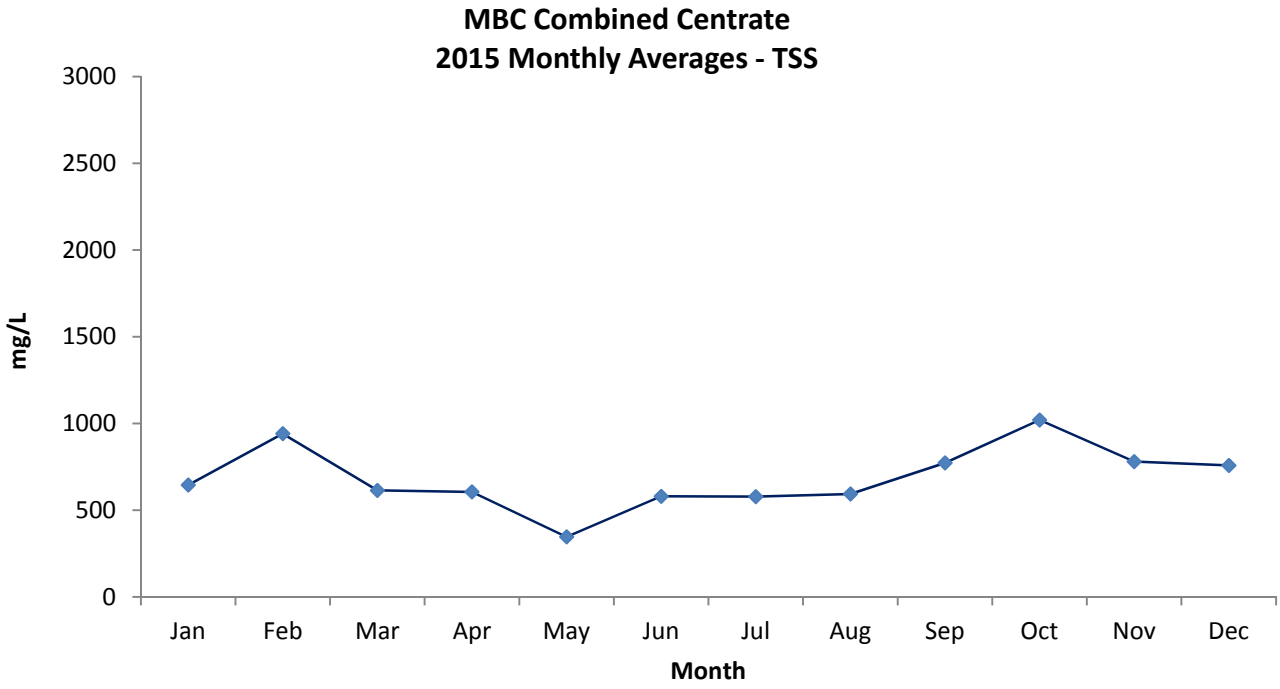
	FLOW	PH	BOD	TSS	VSS	TS	TVS	TSS Mass Emmissions
	MGD	pH Units	mg/L	mg/L	mg/L	Wt%	Wt%	(lbs/Day)
JANUARY -2015	2.03	7.82	253	645	485	0.35	42	10920
FEBRUARY -2015	1.89	7.75	316	941	706	0.39	45	14833
MARCH -2015	1.80	7.79	217	614	450	0.34	42	9217
APRIL -2015	2.01	7.77	<209	605	445	0.37	44	10142
MAY -2015	2.09	7.84	227	346	265	0.38	45	6031
JUNE -2015	2.14	7.85	277	580	441	0.38	46	10352
JULY -2015	2.15	7.86	274	578	440	0.36	48	10364
AUGUST -2015	2.16	7.80	248	593	450	0.39	52	10683
SEPTEMBER-2015	2.04	7.78	298	772	577	0.48	56	13134
OCTOBER -2015	2.02	7.80	341	1020	728	0.46	53	17184
NOVEMBER -2015	2.06	7.77	332	780	569	0.34	42	13401
DECEMBER -2015	2.15	7.75	324	758	552	0.33	42	13592
Average	2.05	7.80	276	686	509	0.38	46	11654

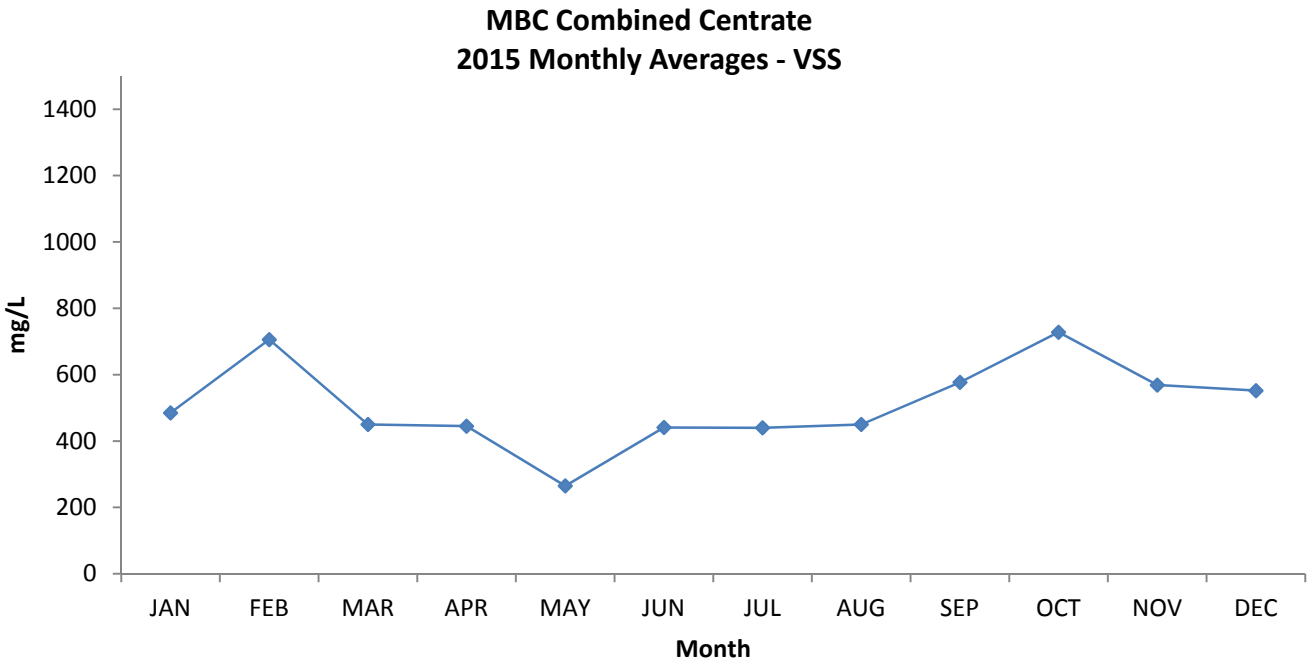
'Average' = Annual average of Monthly Averages.

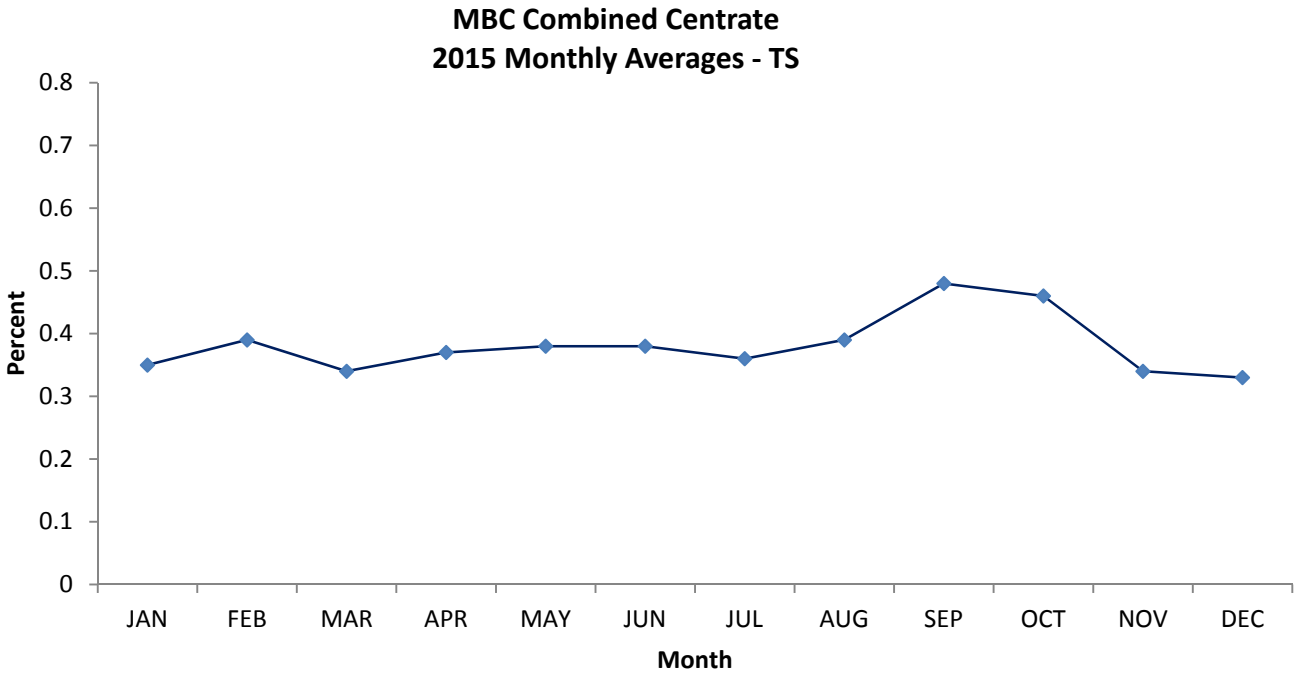

MBC Combined Centrate
2015 Monthly Averages - Flow
MGD
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

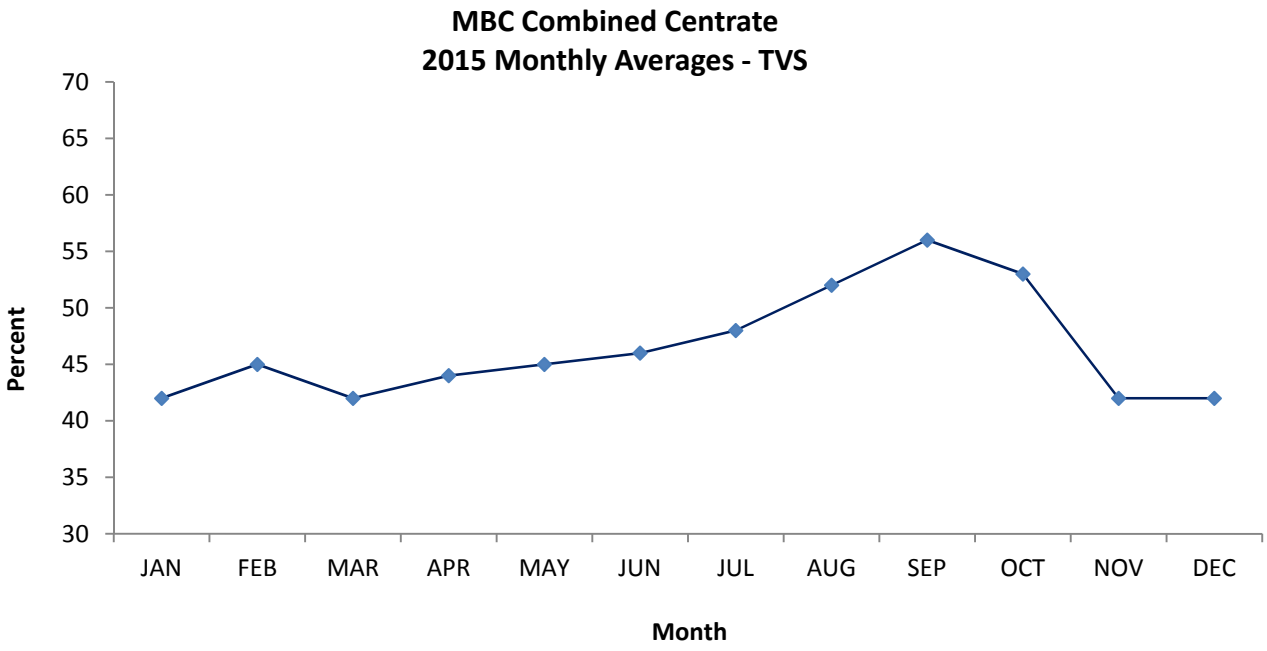

MBC Combined Centrate
2015 Monthly Averages - pH
pH Units
8
7.95
7.9
7.85
7.8
7.75
7.7
7.65
7.6
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

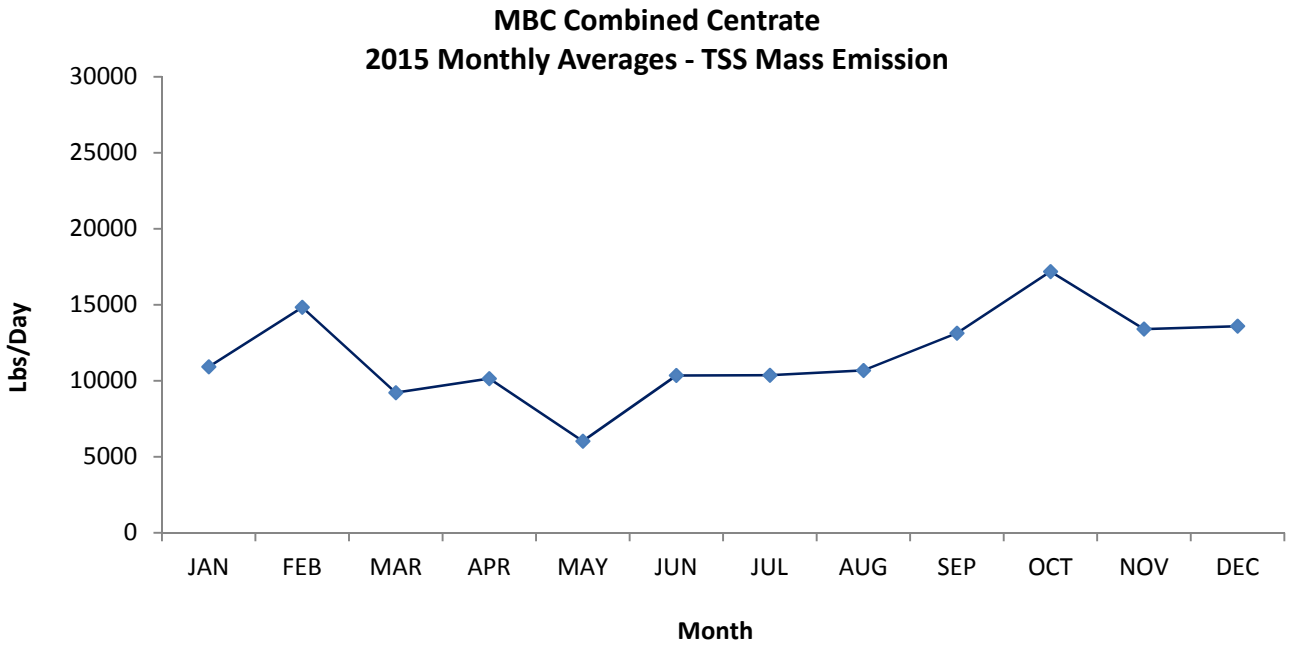

MBC Combined Centrate
2015 Monthly Averages - BOD
700
600
500
400
300
200
100
0
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


MBC Combined Centrate
2015 Monthly Averages - TSS
3000
2500
2000
1500
1000
500
0
mg/L
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

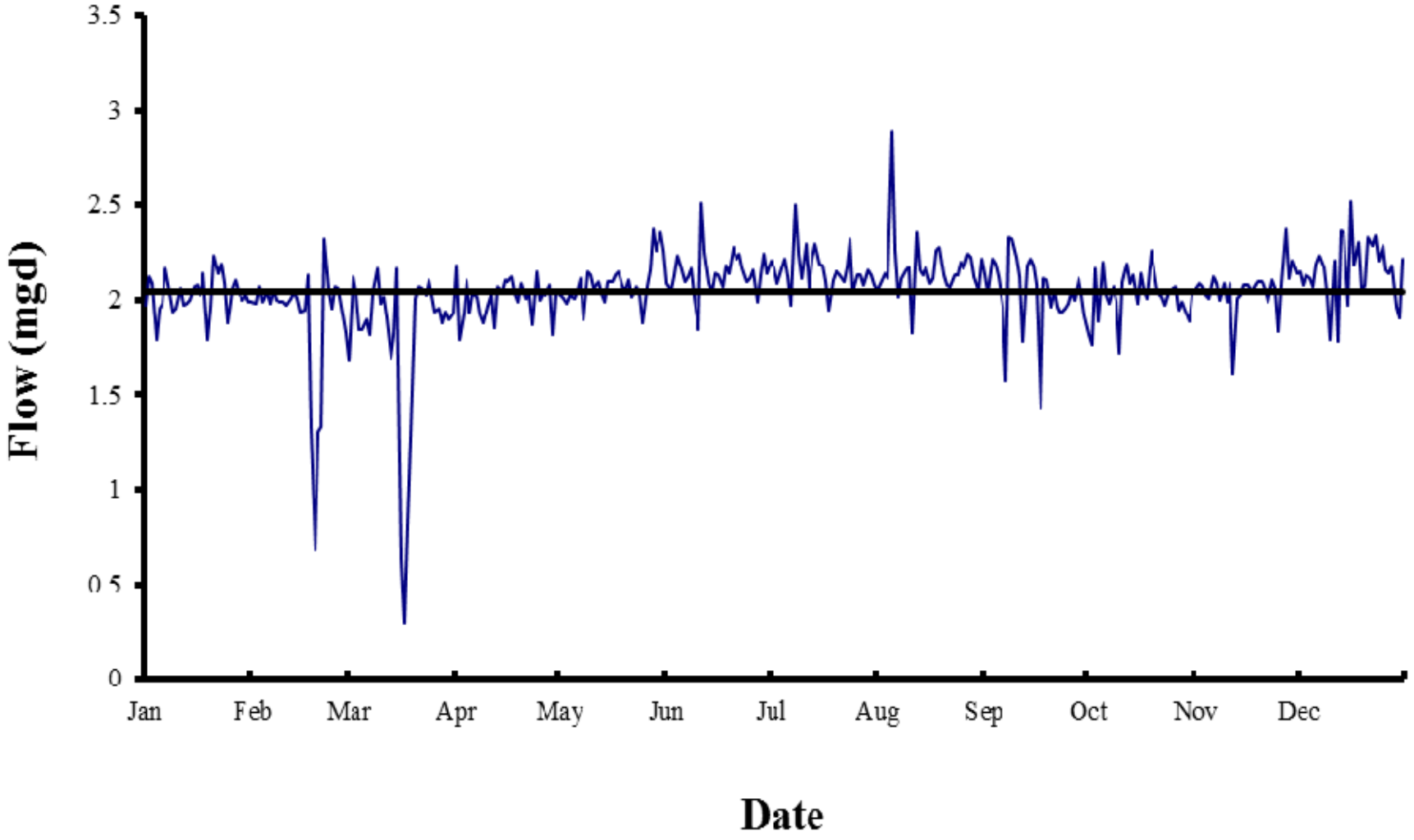

MBC Combined Centrate
2015 Monthly Averages - VSS
mg/L
1400
1200
1000
800
600
400
200
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


MBC Combined Centrate
2015 Monthly Averages - TS
Percent
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


MBC Combined Centrate
2015 Monthly Averages - TVS
Percent
70
65
60
55
50
45
40
35
30
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


MBC Combined Centrate
2015 Monthly Averages - TSS Mass Emission
Lbs/Day
30000
25000
20000
15000
10000
5000
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

2015 MBC Return Stream Flow (mgd)



Metro Biosolids Center

2015 MBC Return Stream Daily Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	1.98	1.99	1.68	2.18	2.02	2.09	2.21	2.05	2.13	1.82	2.05	2.15	
2	2.12	1.98	2.12	1.79	2.01	2.05	2.16	2.10	2.03	1.76	2.08	2.08	
3	2.09	2.07	2.04	1.93	1.98	2.13	2.08	2.14	2.21	2.16	2.07	2.13	
4	1.79	1.99	1.84	2.11	2.02	2.24	2.17	2.12	2.19	1.89	2.02	2.11	
5	1.95	2.04	1.85	1.93	2.00	2.18	2.22	2.88	2.12	2.19	2.01	2.07	
6	1.98	1.98	1.90	2.04	2.05	2.09	2.12	2.26	1.97	2.03	2.12	2.19	
7	2.16	2.05	1.82	2.01	2.11	2.12	1.97	2.02	1.58	1.98	2.08	2.23	
8	2.03	2.00	2.05	1.92	1.89	2.16	2.50	2.11	2.33	2.07	2.00	2.17	
9	1.94	1.99	2.16	1.88	2.15	2.02	2.24	2.16	2.32	1.99	2.09	2.04	
10	1.95	1.99	1.98	1.97	2.13	1.84	2.11	2.17	2.22	1.73	1.99	1.79	
11	2.06	1.98	2.02	2.03	2.06	2.51	2.29	1.82	2.12	2.10	2.09	2.21	
12	1.97	2.01	1.90	1.85	2.10	2.25	2.05	2.36	1.78	2.19	1.61	1.78	
13	1.98	2.04	1.70	2.07	2.03	2.09	2.22	2.15	2.18	2.08	2.01	2.36	
14	2.00	2.01	1.82	2.05	1.99	2.04	2.29	2.13	2.22	2.13	2.02	2.35	
15	2.06	1.94	2.16	2.10	2.09	2.14	2.19	2.17	2.18	1.98	2.07	1.98	
16	2.08	1.95	0.62	2.09	2.10	2.13	2.18	2.09	2.07	2.14	2.08	2.52	
17	2.03	2.13	0.29	2.12	2.13	2.07	2.09	2.11	1.42	2.05	2.04	2.18	
18	2.14	1.32	0.82	2.04	2.15	2.18	1.95	2.26	2.11	2.01	2.07	2.30	
19	1.79	0.68	1.28	1.99	2.07	2.14	2.11	2.28	2.11	2.26	2.10	2.04	
20	1.97	1.31	2.01	2.09	2.05	2.28	2.15	2.13	1.96	2.15	2.09	2.08	
21	2.23	1.33	2.07	2.01	2.10	2.21	2.13	2.08	2.05	2.04	2.05	2.33	
22	2.14	2.32	2.06	2.03	2.02	2.24	2.10	2.07	1.96	2.02	1.99	2.28	
23	2.19	2.04	2.03	1.87	2.07	2.16	2.17	2.13	1.93	1.97	2.10	2.34	
24	2.09	1.95	2.10	2.15	2.03	2.09	2.32	2.13	1.95	2.03	2.06	2.21	
25	1.88	2.07	2.02	2.00	1.88	2.11	2.04	2.20	1.98	2.05	1.83	2.29	
26	2.06	2.06	1.94	2.03	2.06	2.16	2.13	2.17	2.04	2.07	2.08	2.15	
27	2.10	1.92	1.95	2.03	2.16	1.99	2.13	2.24	2.00	1.95	2.37	2.13	
28	2.04	1.82	1.88	2.07	2.37	2.13	2.08	2.22	2.11	1.99	2.11	2.18	
29	2.00		1.94	1.81	2.26	2.25	2.16	2.12	2.03	1.95	2.21	1.96	
30	2.03		1.89	2.04	2.35	2.13	2.13	2.05	1.91	1.89	2.14	1.90	
31	1.99		1.93		2.26		2.07	2.21		2.03		2.21	Annual Summary
Avg	2.03	1.89	1.80	2.01	2.09	2.14	2.15	2.16	2.04	2.02	2.06	2.15	2.05
Min	1.79	0.68	0.29	1.79	1.88	1.84	1.95	1.82	1.42	1.73	1.61	1.78	0.29
Max	2.23	2.32	2.16	2.18	2.37	2.51	2.50	2.88	2.33	2.26	2.37	2.52	2.88

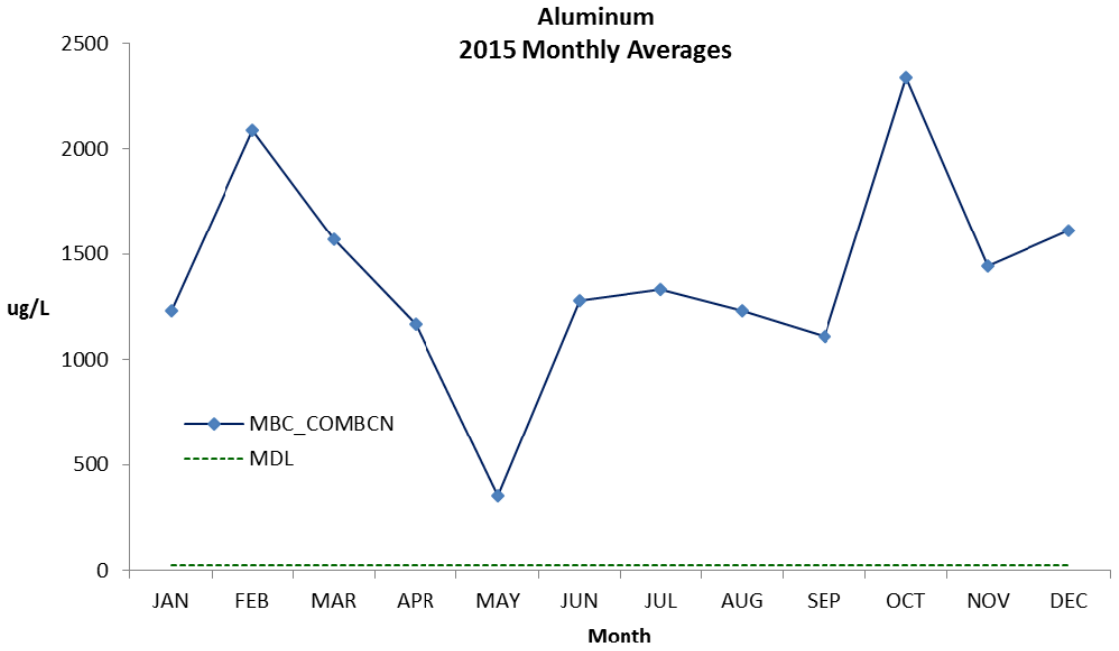
POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL SLUDGE CENTRATE COMPOSITES
Trace Metals

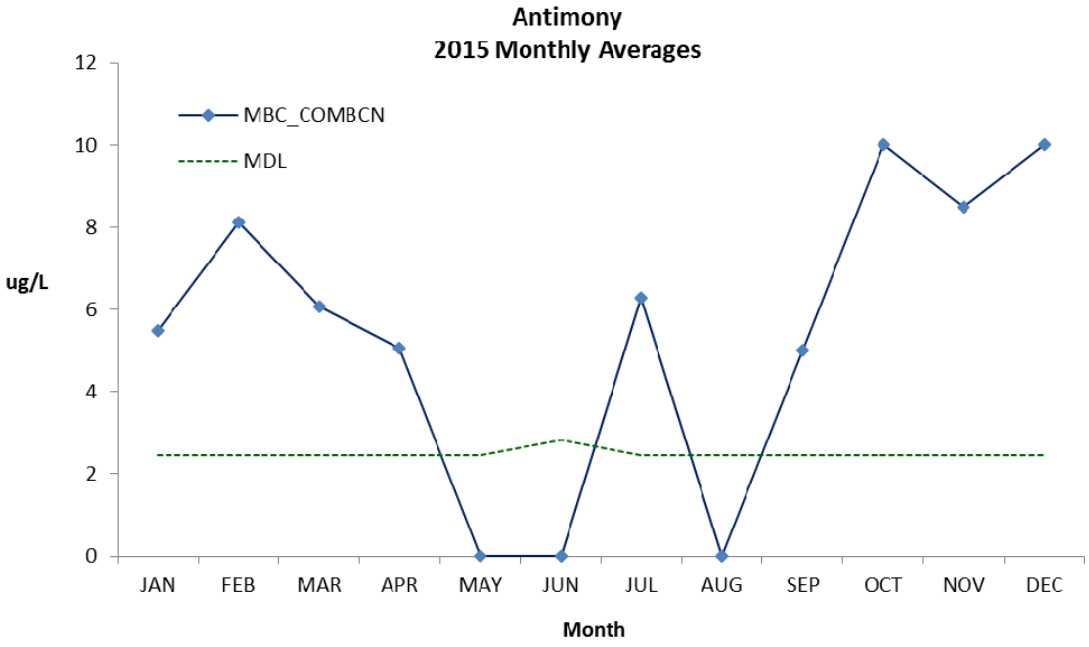
From: 01-JAN-2015 to: 31-DEC-2015

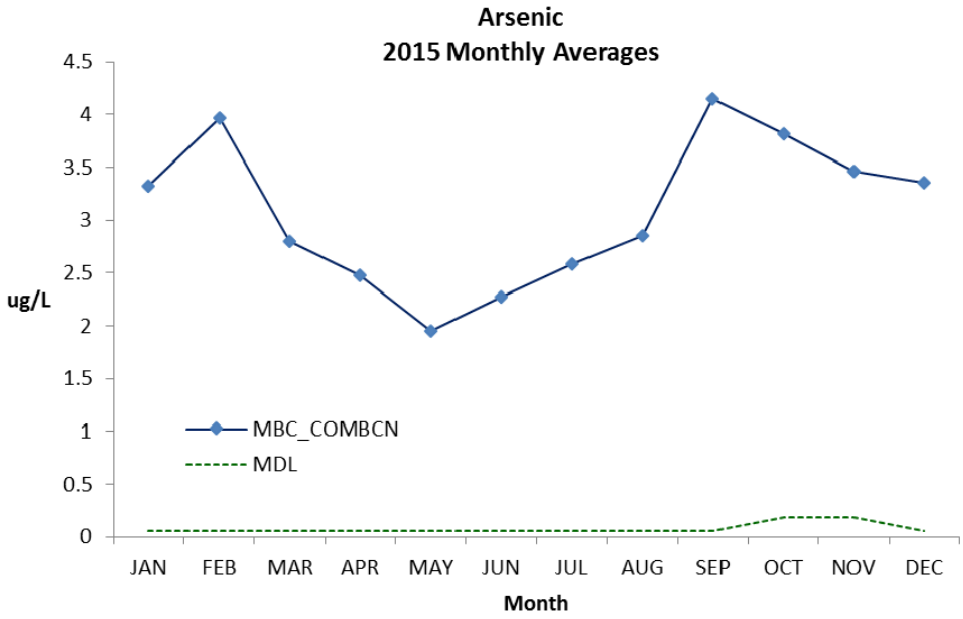
Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015
Sample ID:			P758656ts	P769989	P775405	P782250	P786785	P792464
Aluminum	23.8	UG/L	1230	2090	1570	1170	353	1280
Antimony	2.83	UG/L	5.49	8.12	6.08	5.05	ND	ND
Arsenic	.18	UG/L	3.32	3.97	2.80	2.48	1.95	2.27
Barium	.7	UG/L	290	434	329	321	173	262
Beryllium	.17	UG/L	ND	ND	ND	ND	ND	ND
Cadmium	.26	UG/L	0.60	0.62	0.76	0.55	1.30	6.04
Chromium	.54	UG/L	11.5	20.4	15.4	11.1	4.8	12.4
Cobalt	.24	UG/L	5.11	6.17	6.26	7.08	4.43	5.54
Copper	2.16	UG/L	218	408	719	273	118	200
Iron	15.6	UG/L	41400	63000	47800	39800	19000	33200
Lead	2.55	UG/L	5.12	10.8	15.8	3.29	ND	ND
Manganese	.78	UG/L	394	457	404	410	314	410
Mercury	.013	UG/L	0.10	0.34	0.38	0.14	0.07	0.14
Molybdenum	.32	UG/L	8.08	11.10	9.03	7.18	2.69	4.71
Nickel	.53	UG/L	23.3	24.6	29.2	25.3	16.6	21.4
Selenium	.24	UG/L	1.52	4.08	1.98	1.68	0.86	0.55
Silver	2.43	UG/L	ND	1.81	2.26	0.88	ND	ND
Thallium	10.4	UG/L	ND	ND	ND	ND	ND	ND
Vanadium	.45	UG/L	8.98	12.1	13.2	12.8	7.99	16.0
Zinc	4.19	UG/L	328	555	445	303	131	247

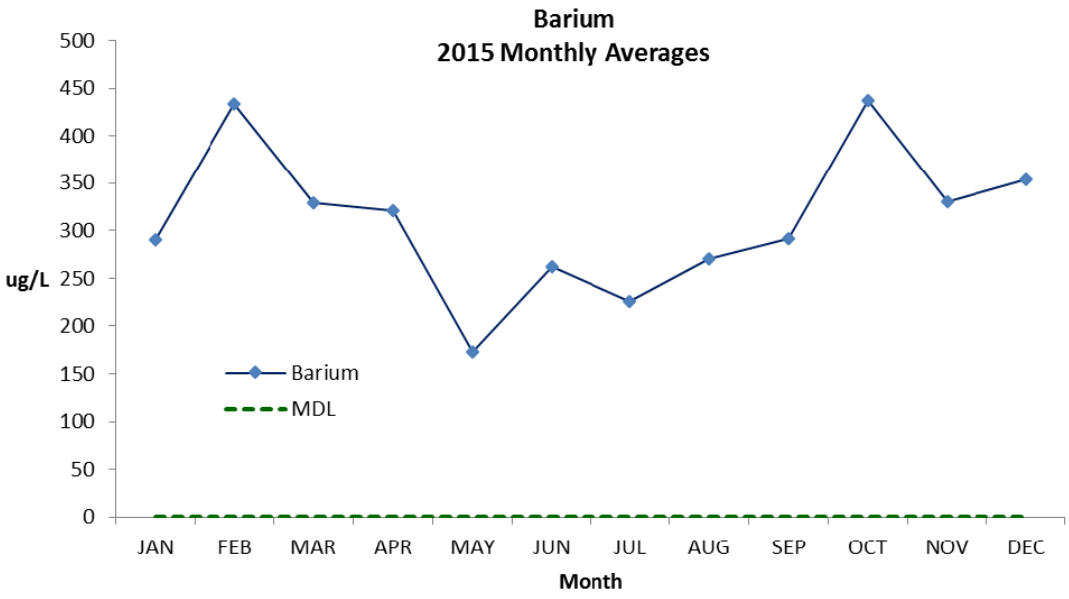
Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015	28-DEC-2015
Sample ID:			P798503ts	P803549	P809984	P815011	P822360	P829081
Aluminum	23.8	UG/L	1330	1230	1110	2340	1450	1620
Antimony	2.83	UG/L	6.29	ND	5.00	10.0	8.50	10.0
Arsenic	.18	UG/L	2.58	2.85	4.15	3.82	3.46	3.36
Barium	.7	UG/L	226	270	292	437	330	354
Beryllium	.17	UG/L	ND	ND	ND	0.30	ND	ND
Cadmium	.26	UG/L	0.28	6.00	1.20	1.95	<0.26	<0.26
Chromium	.54	UG/L	11.4	12.0	12.9	28.0	14.5	16.8
Cobalt	.24	UG/L	6.80	5.80	5.20	8.25	6.35	6.70
Copper	2.16	UG/L	92	238	237	417	258	298
Iron	15.6	UG/L	32700	35000	46100	75100	59400	67800
Lead	2.55	UG/L	ND	8.00	5.00	13.0	9.50	9.50
Manganese	.78	UG/L	431	530	542	568	473	469
Mercury	.013	UG/L	0.12	0.14	0.13	0.26	0.12	0.12
Molybdenum	.32	UG/L	8.89	7.70	10.1	22.0	11.6	13.7
Nickel	.53	UG/L	22.7	22.0	23.0	51.0	27.5	31.1
Selenium	.24	UG/L	2.43	2.43	2.20	1.02	3.06	3.62
Silver	2.43	UG/L	0.85	ND	ND	0.95	1.25	1.50
Thallium	10.4	UG/L	ND	ND	ND	9.50	ND	ND
Vanadium	.45	UG/L	17.8	15.0	13.5	29.0	19.0	21.3
Zinc	4.19	UG/L	269	266	270	587	350	420

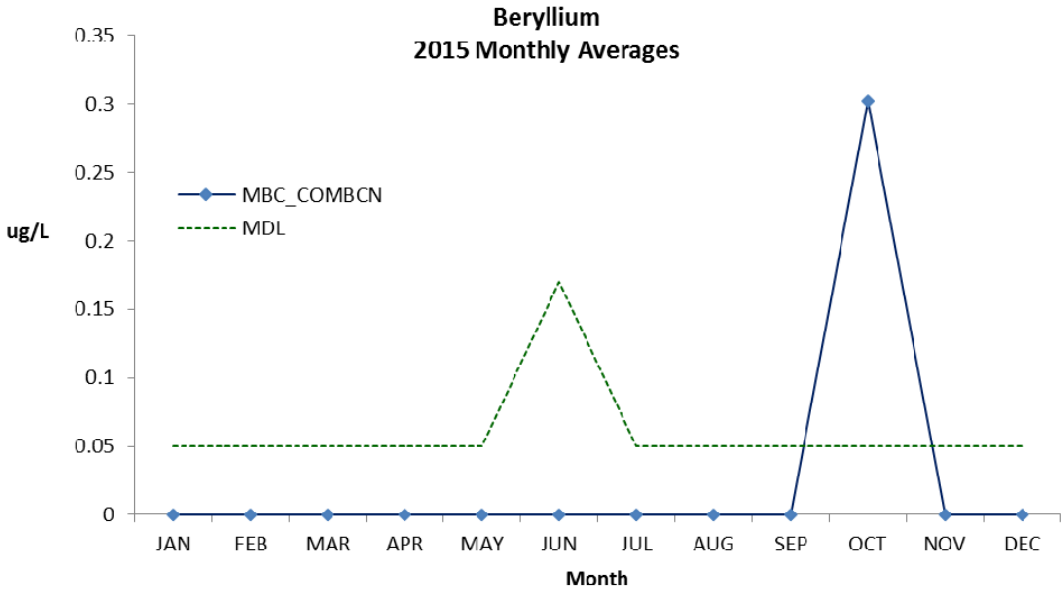
ND= Not Detected
MBC_COMBCN= Metro Biosolids Center Combined Sludge Centrate.

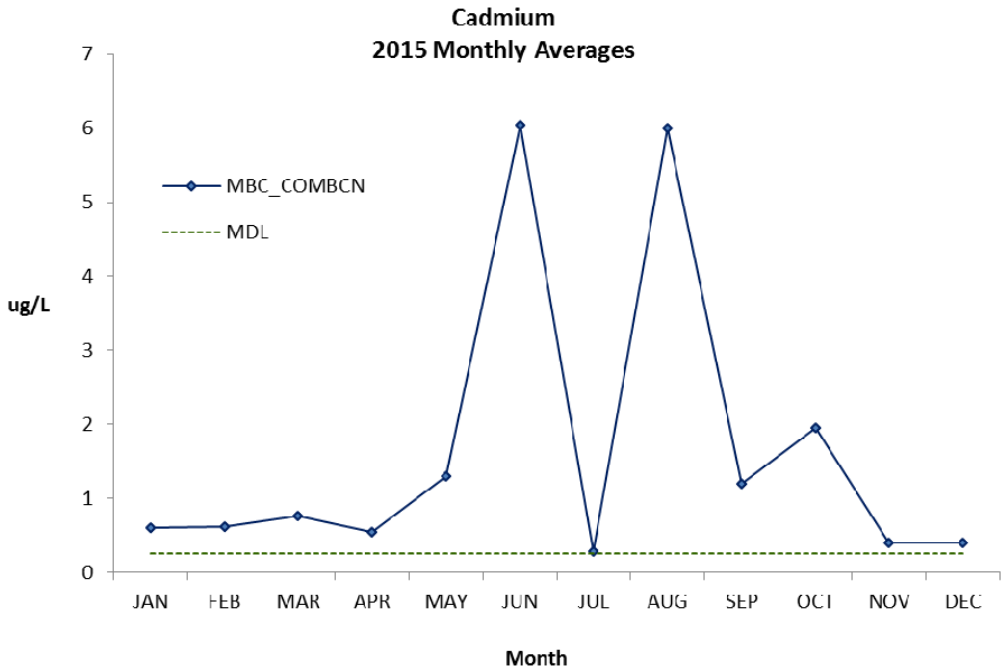

Aluminum
2015 Monthly Averages
2500
2000
1500
1000
500
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

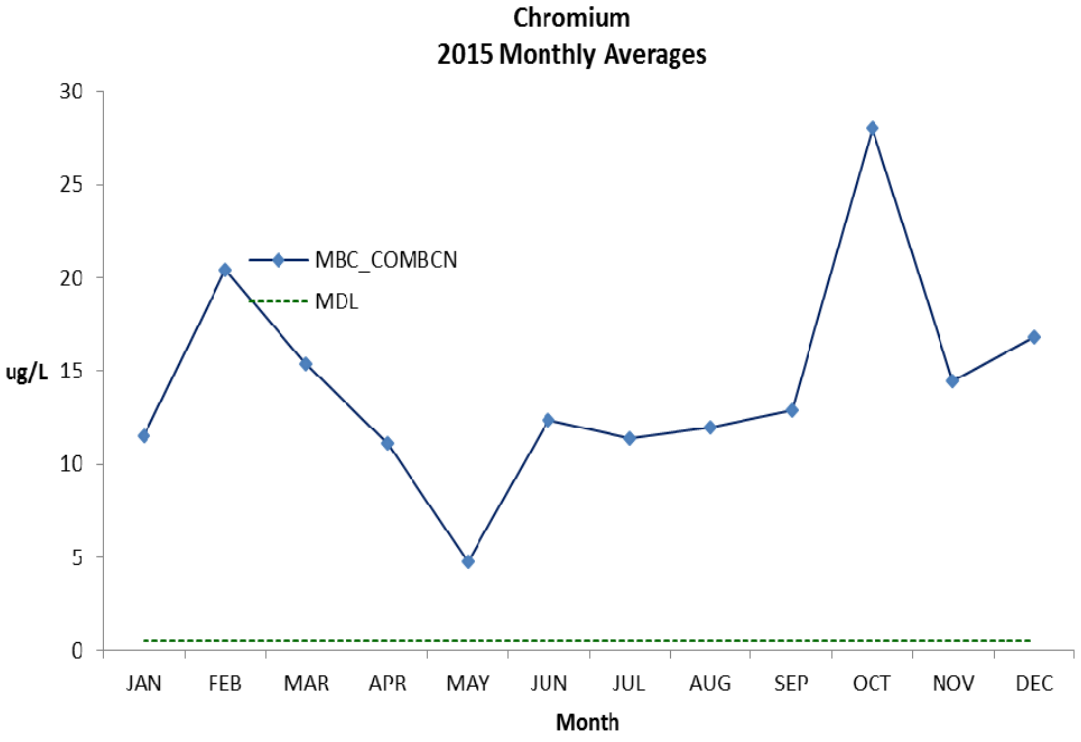

Antimony
2015 Monthly Averages
12
10
8
6
4
2
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

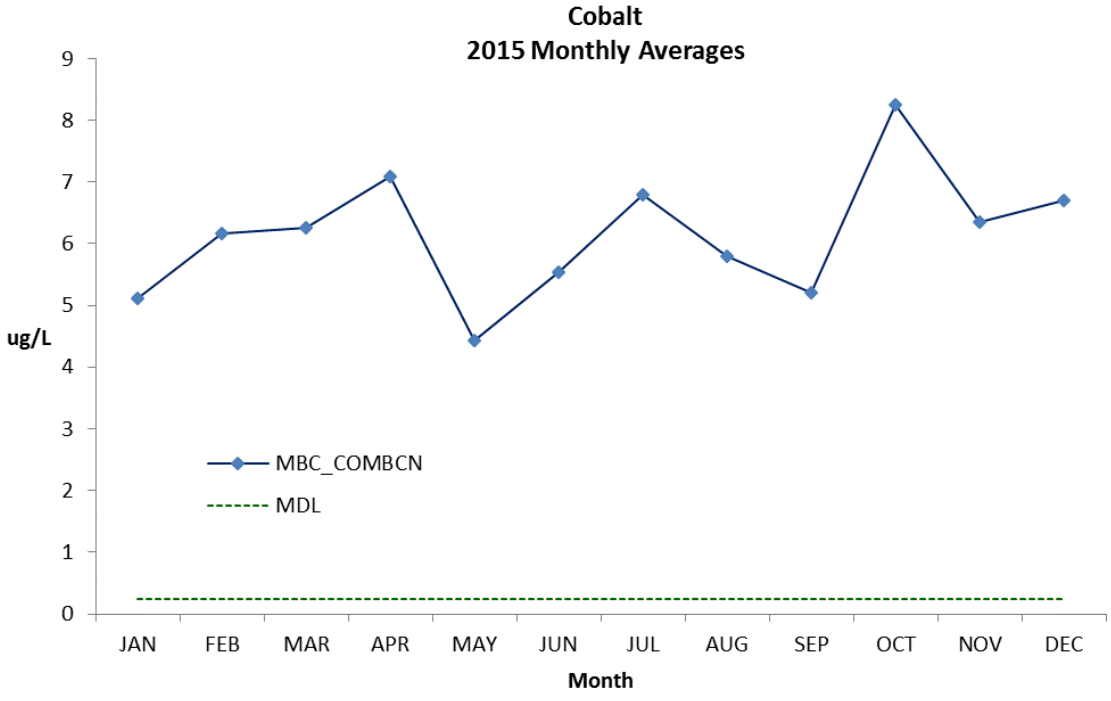

Arsenic
2015 Monthly Averages
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

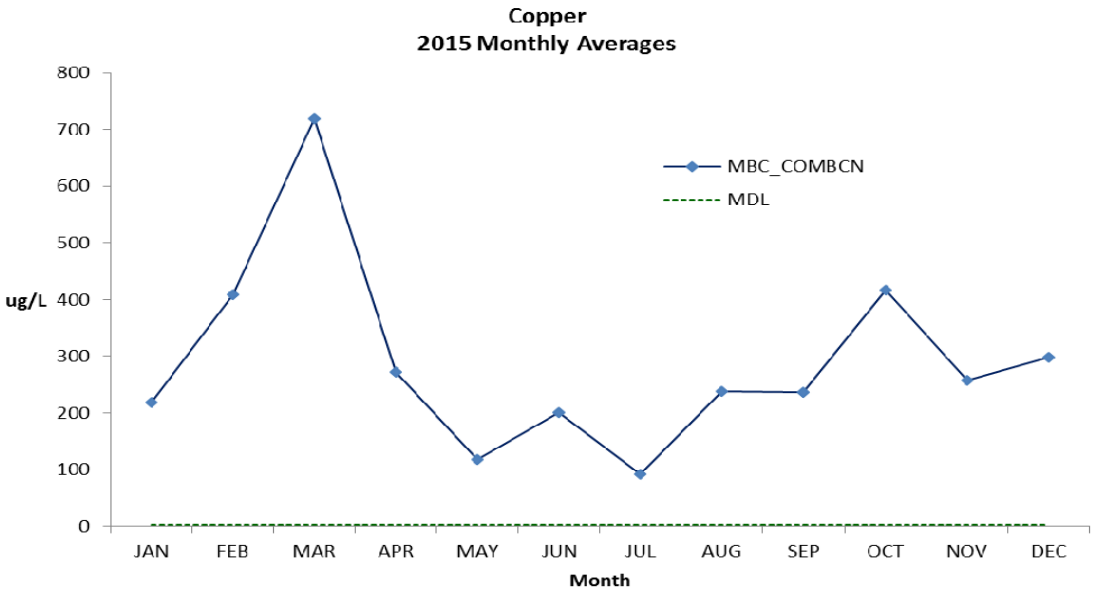

Barium
2015 Monthly Averages
500
450
400
350
300
250
200
150
100
50
0
ug/L
Barium
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

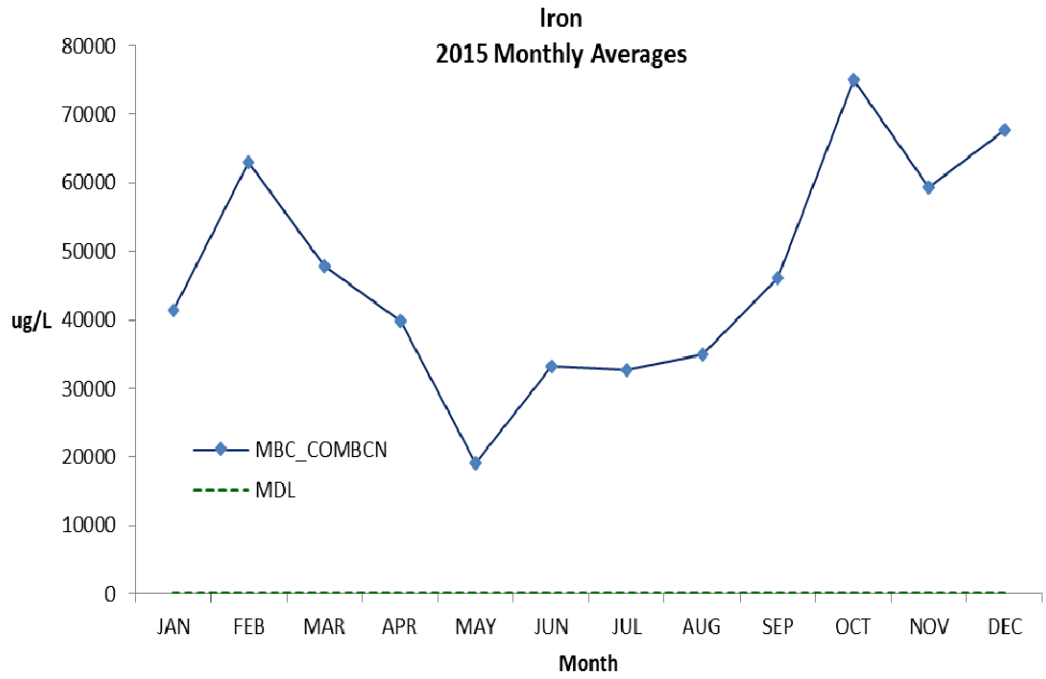

Beryllium
2015 Monthly Averages
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

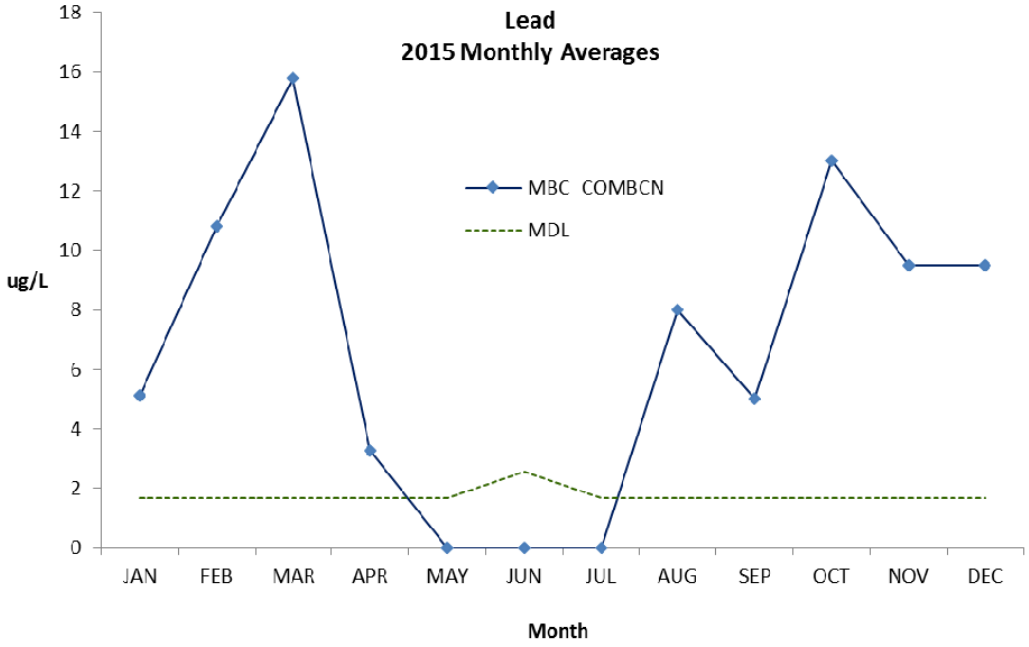

Cadmium
2015 Monthly Averages
7
6
5
4
3
2
1
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

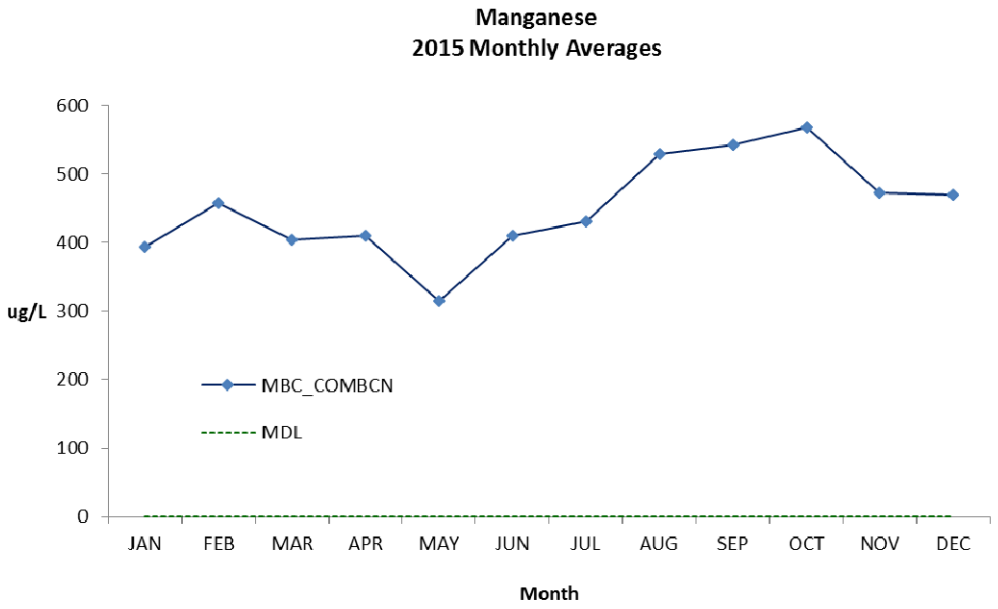

Chromium
2015 Monthly Averages
30
25
20
15
10
5
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

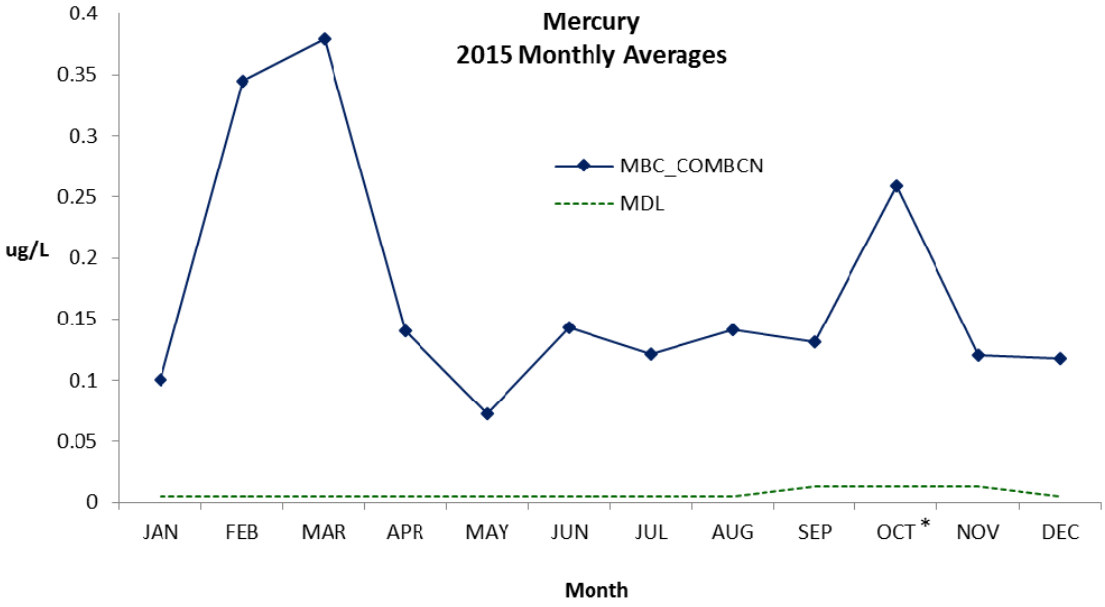

Cobalt
2015 Monthly Averages
9
8
7
6
5
4
3
2
1
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

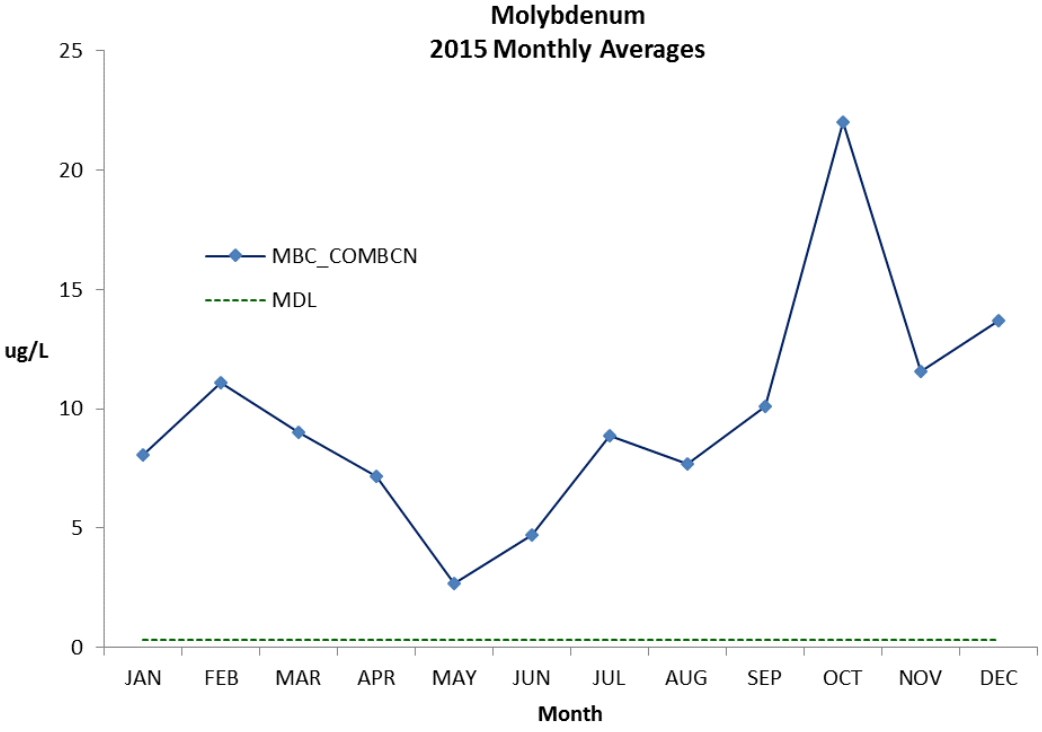

Copper
2015 Monthly Averages
800
700
600
500
400
300
200
100
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

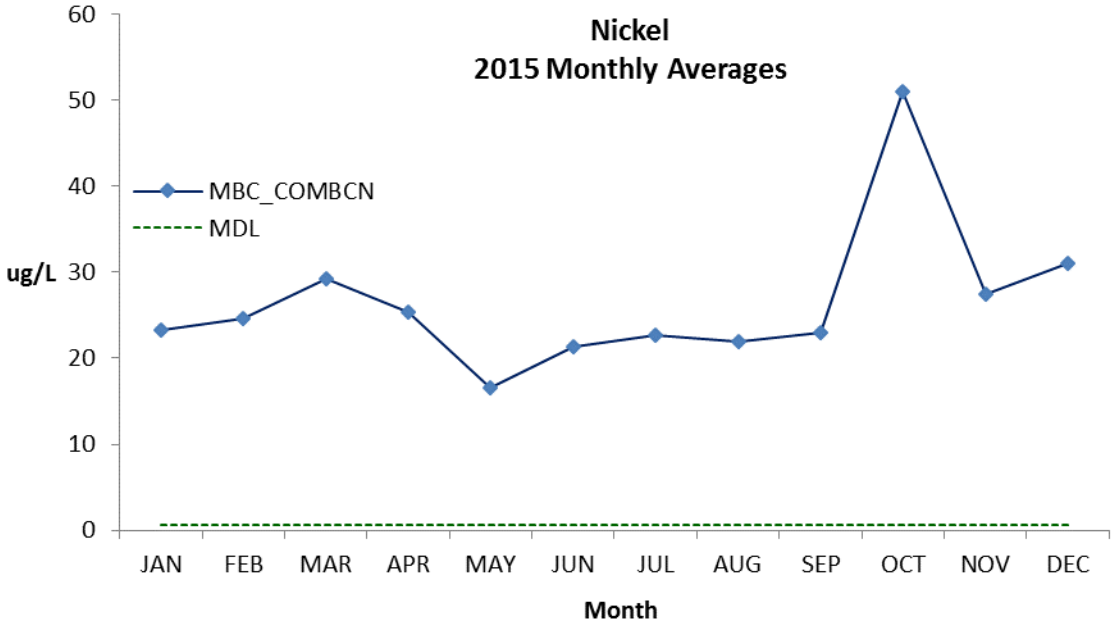

Iron
2015 Monthly Averages
80000
70000
60000
50000
40000
30000
20000
10000
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

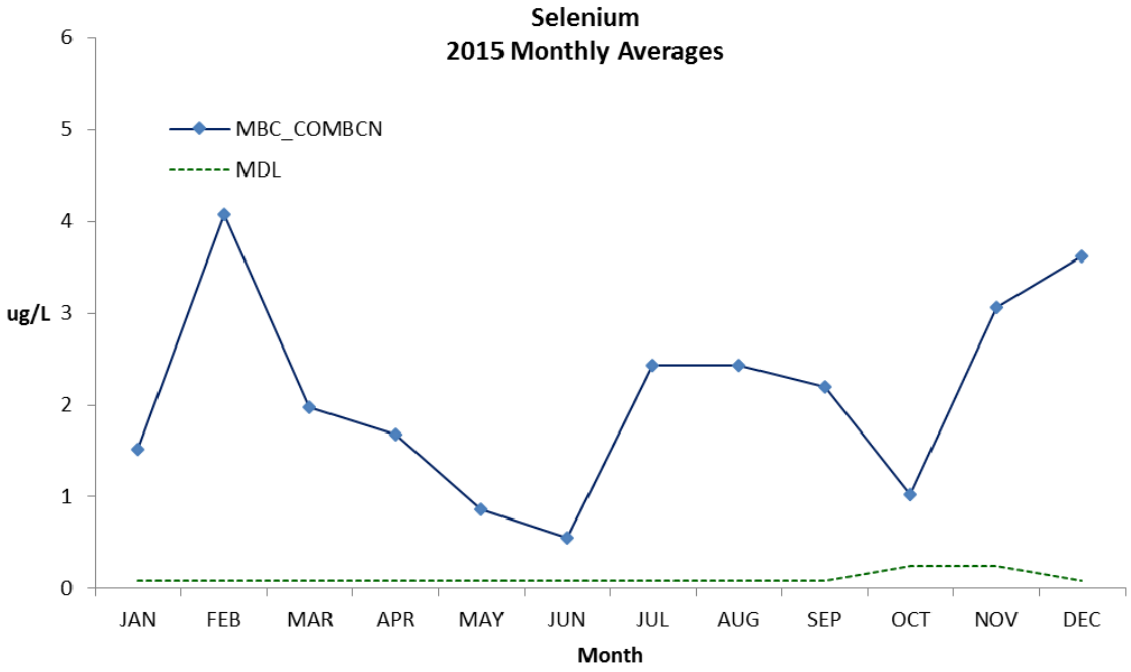

Lead
2015 Monthly Averages
ug/L
18
16
14
12
10
8
6
4
2
0
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

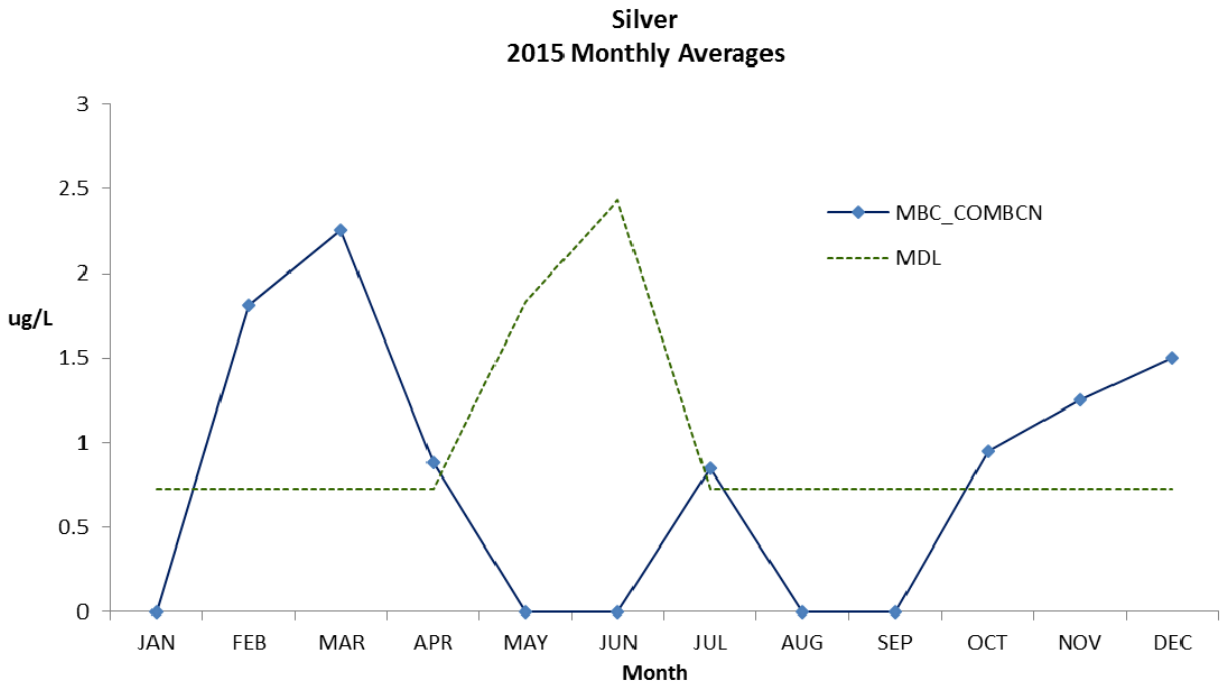

Manganese
2015 Monthly Averages
ug/L
600
500
400
300
200
100
0
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

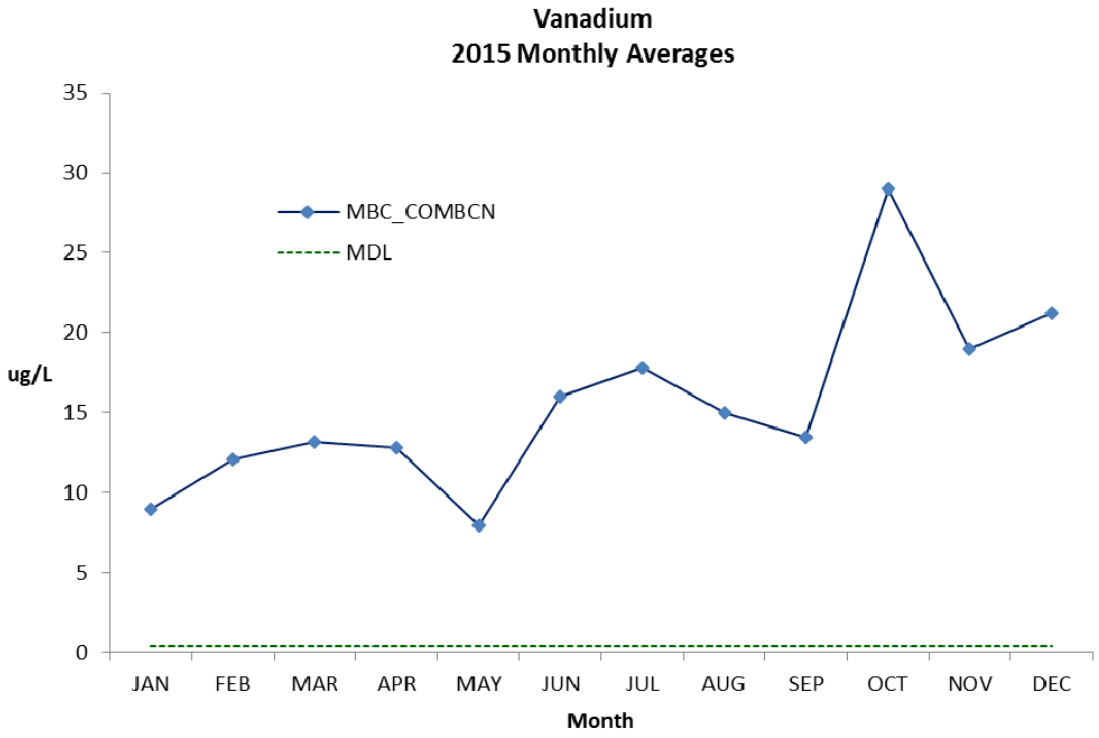

Mercury
2015 Monthly Averages
MBC_COMBCN
MDL
ug/L
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT *
NOV
DEC
Month


Molybdenum
2015 Monthly Averages
MBC_COMBCN
MDL
ug/L
25
20
15
10
5
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Nickel
2015 Monthly Averages
MBC_COMBCN
MDL
ug/L
60
50
40
30
20
10
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Selenium
2015 Monthly Averages
MBC_COMBCN
MDL
ug/L
6
5
4
3
2
1
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Silver
2015 Monthly Averages
3
2.5
2
1.5
1
0.5
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month


Vanadium
2015 Monthly Averages
35
30
25
20
15
10
5
0
ug/L
MBC_COMBCN
MDL
JAN
FEB
MAR
APR
MAY
JUN
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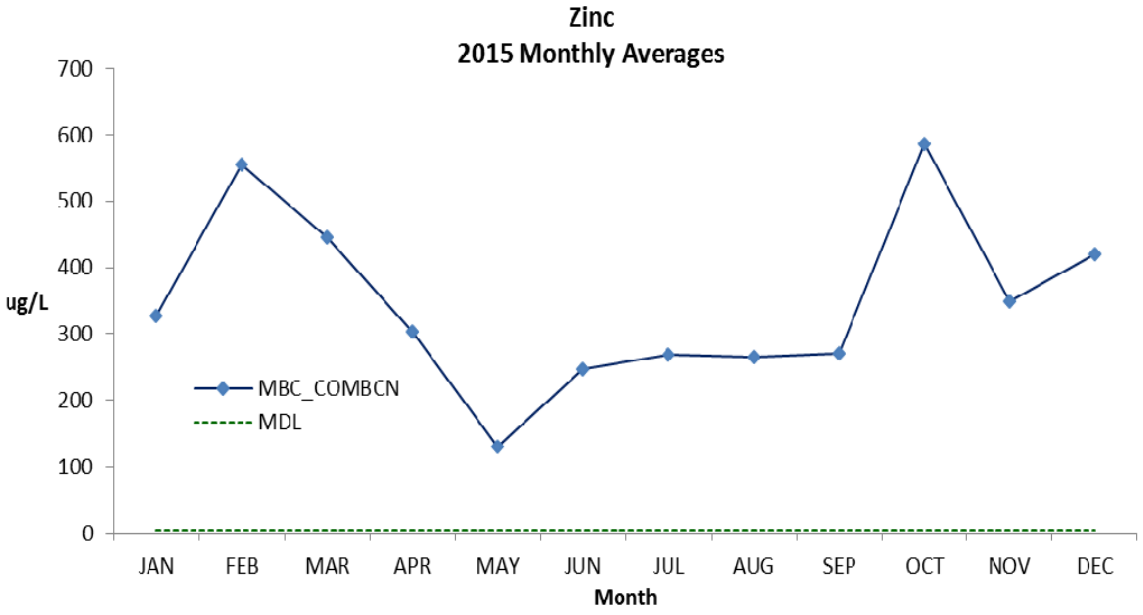
AUG
SEP
OCT
NOV
DEC
Month


Zinc
2015 Monthly Averages
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

C. MBC Digester and Digested Sludge Data Summary

Metro Biosolids Center
Digesters

Year: 2015

Digester 1

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2014				NOT IN SERVICE				
FEBRUARY -2014								
MARCH -2014								
APRIL -2014								
MAY -2014								
JUNE -2014								
JULY -2014								
AUGUST -2014								
SEPTEMBER-2014								
OCTOBER -2014								
NOVEMBER -2014								
DECEMBER -2014								
Average:	*	*	*	*	*	*	*	*

Digester 2

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2014				NOT IN SERVICE				
FEBRUARY -2014								
MARCH -2014								
APRIL -2014								
MAY -2014								
JUNE -2014								
JULY -2014								
AUGUST -2014								
SEPTEMBER-2014								
OCTOBER -2014								
NOVEMBER -2014								
DECEMBER -2014								
Average:	*	*	*	*	*	*	*	*

Digester 3

	pH	Total Solids (%)	Volatile Solids (%)	Alkal-inity (mg/L)	Volatile Acids (mg/L)	Methane (%)	Carbon Dioxide (%)	H2S ppm
JANUARY -2015	7.11	2.9	66.8	2560	47	59.3	40.7	19
FEBRUARY -2015	7.11	2.8	66.7	2440	43	58.9	41.1	19
MARCH -2015	7.13	2.9	65.8	2350	54	59.8	40.2	20
APRIL -2015	7.18	3.0	66.2	2260	63	59.7	40.3	20
MAY -2015	7.10	3.0	66.0	2150	66	59.7	40.3	20
JUNE -2015	7.02	2.8	65.9	1970	60	60.0	40.0	20
JULY -2015	7.04	2.7	65.6	1880	62	60.0	40.0	20
AUGUST -2015	7.06	2.8	66.4	1950	63	59.4	40.6	23
SEPTEMBER-2015	7.01	2.7	66.9	1740	61	60.1	39.9	25
OCTOBER -2015	7.04	2.9	66.8	1680	81	60.1	39.9	31
NOVEMBER -2015	6.98	2.7	64.0	1420	65	60.5	39.5	40
DECEMBER -2015	6.97	2.7	64.5	1650	65	59.9	40.1	40
Average:	7.06	2.8	66.0	2004	61	59.8	40.2	25

D. Gas Production

Metro Biosolids Center
Gas Report - 2014

Daily Monthly Averages - 2015

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			278,606.1	278,606.1	3,130	281,605	284,735
02			272,459.6	272,459.6	1,935	274,154	276,090
03			260,241.9	260,241.9	951	257,382	258,333
04			271,288.6	271,288.6	823	282,624	283,447
05			298,176.4	298,176.4	374	309,339	309,713
06			314,244.7	314,244.7	1,149	315,665	316,814
07			331,787.9	331,787.9	706	312,925	313,631
08			354,587.0	354,587.0	599	331,764	332,363
09			331,935.5	331,935.5	775	306,655	307,430
10			307,478.9	307,478.9	750	284,650	285,401
11			298,066.5	298,066.5	342	280,023	280,366
12			309,767.6	309,767.6	3,736	290,595	294,332
avg			302,386.7	302,386.7	1,273	293,948	295,221

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			8,636,788.0	8,636,788.0	97,044	8,729,741	8,826,785
02			7,628,868.0	7,628,868.0	54,187	7,676,322	7,730,509
03			8,067,498.0	8,067,498.0	29,468	7,978,841	8,008,309
04			8,138,657.0	8,138,657.0	24,703	8,478,708	8,503,411
05			9,243,469.0	9,243,469.0	11,599	9,589,495	9,601,094
06			9,427,342.0	9,427,342.0	34,468	9,469,963	9,504,431
07			10,285,426.0	10,285,426.0	21,884	9,700,685	9,722,569
08			10,992,197.0	10,992,197.0	18,570	10,284,685	10,303,255
09			9,958,064.0	9,958,064.0	23,255	9,199,656	9,222,911
10			9,531,845.0	9,531,845.0	23,259	8,824,158	8,847,417
11			8,941,995.0	8,941,995.0	10,270	8,400,695	8,410,965
12			9,602,797.0	9,602,797.0	115,824	9,008,455	9,124,279
avg			9,204,578.8	9,204,578.8	38,711	8,945,117	8,983,828
sum			110,454,946.0	110,454,946.0	464,531	107,341,404	107,805,935

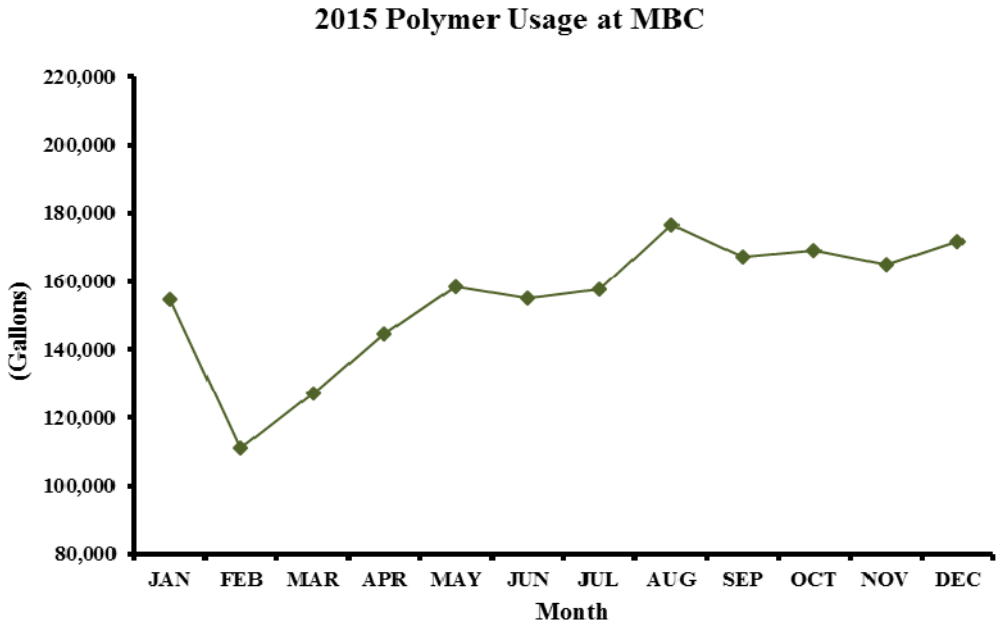
E. Chemical Usage

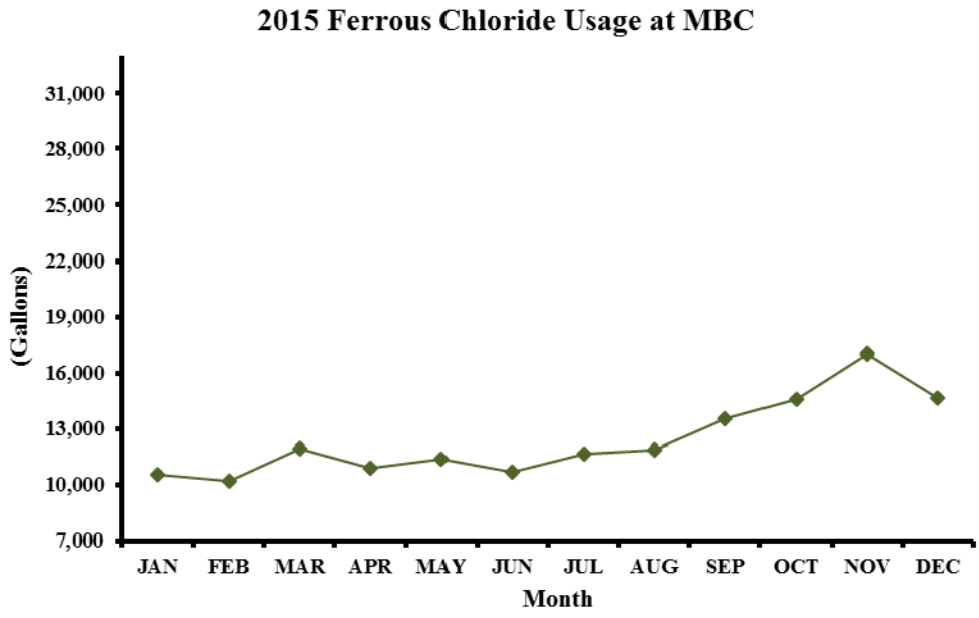
Metro Biosolids Center - Monthly Chemical Usage Report

01-JAN-2015 to 31-DEC-2015

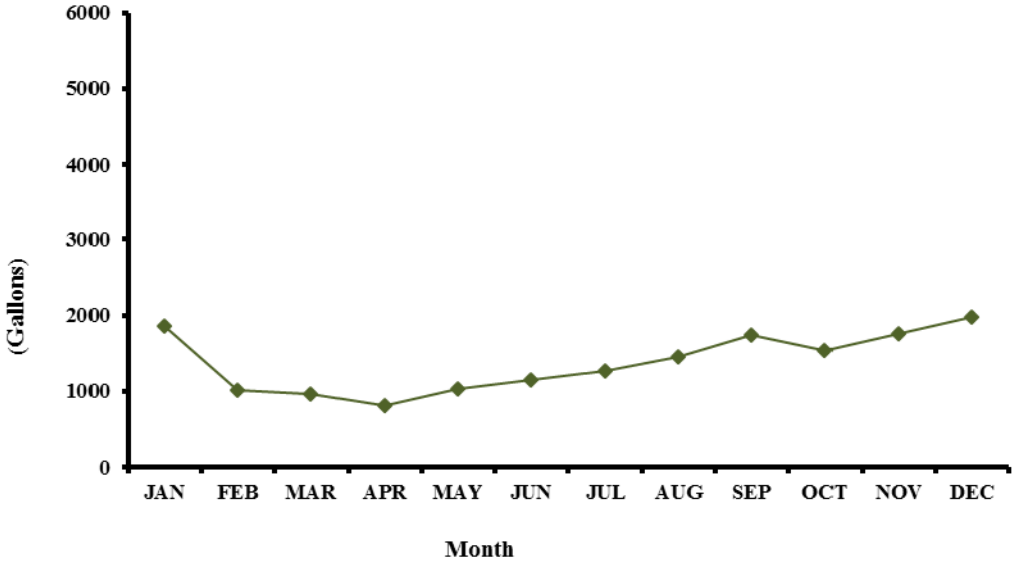
MON	Polymer Gallons	Ferric Chloride Gallons	Ferrous Chloride Gallons	Sodium Hydroxide Gallons	Hypochlorite Gallons	Sulfuric Acid Gallons
01	154,450	0	10,531	1,865	2,824	0
02	110,994	0	10,180	1,026	2,468	0
03	127,285	0	11,929	964	3,239	0
04	144,654	0	10,888	813	3,341	0
05	158,267	0	11,408	1,040	2,872	0
06	155,093	0	10,712	1,154	3,286	0
07	157,600	0	11,672	1,268	3,799	0
08	176,723	0	11,912	1,454	3,980	0
09	167,145	0	13,568	1,739	3,988	0
10	169,073	0	14,563	1,539	3,399	0
11	165,064	0	17,064	1,760	2,749	0
12	171,762	0	14,686	1,982	2,772	0
avg	154,843	0	12,426	1,384	3,227	0
sum	1,858,111	0	149,113	16,602	38,718	0

F. Graphs of Monthly Chemical Usage

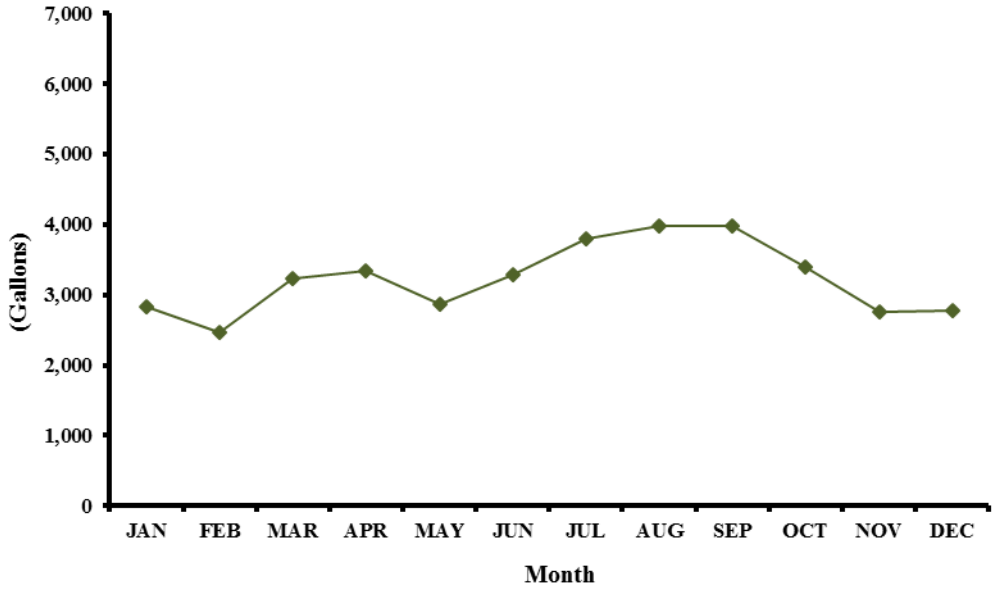




2015 Caustic Usage at MBC



2015 Sodium Hypochlorite Usage at MBC



G. Solids Handling Annual Report

2015 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 92106	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 92106

The Point Loma Wastewater Treatment Plant (PLWWTP) and the North City Water Reclamation Plant produced and disposed of 131,208 wet tons or 35,620 dry tons (32,314 dry metric tons) of digested sludge (biosolids) in 2015.

All digested sludge produced at the Point 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 at Point 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
Disposal in sanitary landfill	**0**	**0**	**0**
Beneficial reuse as Alternative Daily Cover (ADC) at landfill	**127,137**	**34,551**	**31,345**
Land application in Arizona	**4,071**	**1,108**	**1,005**
Totals:	**131,208**	**35,659**	**32,350**

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 to 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, 2015 - December 31, 2015
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 Operations staff also collects a 24-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 lab staff 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. The City of San Diego's Environmental Chemistry Services (#AZ0783) or

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 2015 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 pollutants list"[15], were performed during 2015 and the reports of these analyses are included in Enclosure 7.

Table 1.A. Landfill location used during 2015 is as follows:

Otay Landfill 1700 Maxwell Road Chula Vista, San Diego County, CA 91911	122 wet tons (34 dry tons or 31 dry metric tons), based on sum of monthly totals disposed of from January to December 2015 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

2015 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		10,333.25	10,333.25	613.42				10,946.67	27.4	2,999.39	2,721.04
February		8,256.54	8,256.54	528.55				8,785.09	27.9	2,451.04	2,223.58
March	2,754.61	6,234.81	8,989.42	225.31				9,214.73	27.5	2,534.05	2,298.89
April	654.78	11,190.52	11,845.30	122.43				11,967.73	27.2	3,257.62	2,955.31
May		11,095.56	11,095.56	347.60				11,443.16	27.5	3,146.87	2,854.84
June		11,018.60	11,018.60	73.69				11,092.29	27.4	3,042.62	2,760.26
July		11,356.62	11,356.62	492.93				11,849.55	26.8	3,170.94	2,876.68
August		10,621.67	10,621.67	369.14				10,990.81	27.1	2,981.81	2,705.10
September	125.74	10,728.96	10,854.70	488.87				11,343.57	27.3	3,096.79	2,809.41
October	1,482.68	8,418.53	9,901.21	687.13				10,588.34	26.7	2,828.15	2,565.69
November		10,680.17	10,680.17	73.28				10,753.45	26.6	2,857.19	2,592.04
December		12,184.14	12,184.14	48.40				12,232.54	26.9	3,293.00	2,987.41
Total:	5,017.81	122,119.37	127,137.18	4,070.75	0.00	0.00	0.00	131,207.93		35,659.46	32,350.26
Monthly Average:		10,176.61	10,594.77	339.23				10,933.99	27.2	2,971.62	2,695.85

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

[2] beneficial use in Land Application.

Table 1C. 2015 Biosolids Land Application

2015 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	27.4		0.00		0.00	613.42	168.08		0.00	613.42	168.08	152.48
February	27.9		0.00		0.00	528.55	147.47		0.00	528.55	147.47	133.78
March	27.5		0.00		0.00	225.31	61.96		0.00	225.31	61.96	56.21
April	27.2		0.00		0.00	122.43	33.30		0.00	122.43	33.30	30.21
May	27.5		0.00		0.00	347.60	95.59		0.00	347.60	95.59	86.72
June	27.4		0.00		0.00	73.69	20.19		0.00	73.69	20.19	18.32
July	26.8		0.00		0.00	492.93	132.11		0.00	492.93	132.11	119.85
August	27.1		0.00		0.00	369.14	100.04		0.00	369.14	100.04	90.75
September	27.3		0.00		0.00	488.87	133.46		0.00	488.87	133.46	121.08
October	26.7		0.00		0.00	687.13	183.46		0.00	687.13	183.46	166.44
November	26.6		0.00		0.00	73.28	19.49		0.00	73.28	19.49	17.68
December	26.9		0.00		0.00	48.40	13.02		0.00	48.40	13.02	11.81
2015 Totals	Avg =27.2	0.00	0.00	0.00	0.00	4,070.75	1,108.16	0.00	0.00	4,070.75	1,108.16	1,005.33

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

2015 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	54.32			0.00	205.59	563.41
February	39.58			0.00	160.98	464.56
March	21.86			2,754.61	199.07	514.84
April	29.04	7.24		654.78	175.18	467.35
May	14.89			0.00	221.51	575.56
June	17.90			0.00	253.21	627.96
July	41.45			0.00	229.65	660.40
August	19.54			0.00	216.92	700.13
September	36.89			125.74	208.13	590.47
October	36.30	14.70		1,482.68	214.35	651.83
November	15.00			0.00	128.23	642.35
December	30.22			0.00	101.39	640.39
Total:	356.99	21.94		5,017.81	2,314.21	7,099.25
Average:	**29.75**	**10.97**		**418.15**	**192.85**	**591.60**

Annual Monitoring Report
Solids Report – TOTALS

Year - 2015

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	34,518,181	6,082	34,518,181	3,469	62,817,651	913	10,947	2,994
02	31,159,062	5,422	31,159,062	3,194	52,961,438	860	8,785	2,452
03	34,180,782	6,333	34,180,782	3,529	55,835,548	781	9,215	2,537
04	32,939,727	5,991	32,939,727	3,375	60,216,147	929	11,968	3,260
05	34,918,565	6,188	34,918,565	3,560	64,697,288	1,027	11,443	3,148
06	32,817,165	5,874	32,817,165	3,396	64,230,986	1,018	11,092	3,042
07	33,507,033	6,031	33,507,033	3,379	66,738,645	996	11,850	3,171
08	34,187,832	5,889	34,187,832	3,455	67,112,396	1,101	10,991	2,982
09	31,328,698	5,792	31,328,698	3,310	61,212,340	1,223	11,344	3,099
10	30,660,950	5,754	30,660,950	3,336	62,671,881	1,210	10,588	2,828
11	30,685,345	5,449	30,685,345	3,233	61,655,562	866	10,754	2,858
12	32,307,441	5,849	32,307,441	3,301	66,766,833	925	12,233	3,293
avg	32,767,565	5,888	32,767,565	3,378	62,243,060	987	10,934	2,972
sum	393,210,781	70,653	393,210,781	40,537	746,916,715	11,849	131,208	35,664

Annual Monitoring Report
Solids Report - Daily Averages by Month

Year - 2015

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
15-01	1,113,490	4.2	195	1,113,490	2.4	111	2,026,376	0.35	29.4	353	27.4	96.6
15-02	1,112,824	4.2	199	1,112,824	2.5	116	1,891,480	0.39	30.0	314	27.9	87.6
15-03	1,102,606	4.4	203	1,102,606	2.5	114	1,801,147	0.34	25.3	297	27.5	81.8
15-04	1,097,991	4.4	201	1,097,991	2.5	111	2,007,205	0.37	31.0	399	27.2	108.7
15-05	1,126,405	4.3	200	1,126,405	2.4	115	2,087,009	0.38	33.1	369	27.5	101.5
15-06	1,093,906	4.3	195	1,093,906	2.5	113	2,141,033	0.38	33.9	370	27.4	101.4
15-07	1,080,872	4.3	196	1,080,872	2.4	110	2,152,860	0.36	32.2	382	26.8	102.3
15-08	1,102,833	4.1	190	1,102,833	2.4	111	2,164,916	0.39	35.6	355	27.1	96.2
15-09	1,044,290	4.4	187	1,044,290	2.5	109	2,040,411	0.48	40.9	378	27.3	103.3
15-10	989,063	4.5	192	989,063	2.6	110	2,021,674	0.46	39.1	342	26.7	91.2
15-11	1,022,845	4.3	185	1,022,845	2.5	106	2,055,185	0.34	28.9	358	26.6	95.3
15-12	1,042,176	4.3	192	1,042,176	2.5	107	2,153,769	0.33	29.9	395	26.9	106.2
avg	1,077,442	4.3	195	1,077,442	2.5	111	2,045,255	0.38	32.4	359	27.2	97.7

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 2015

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 2015.

METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2015 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015
Sample ID:	MDL	Units	P758659	P769990	P775406	P782251	P786786	P792465
Aluminum	4	MG/KG	3640	3400	3620	3990	3600	3480
Antimony	.5	MG/KG	46.1	4.1	3.4	3.9	3.2	3.0
Arsenic	.7	MG/KG	4.59	3.49	3.48	3.31	3.01	2.97
Barium	.05	MG/KG	395	381	397	204	359	390
Beryllium	.02	MG/KG	0.10	0.08	0.09	0.04	ND	ND
Cadmium	.1	MG/KG	1.1	1.1	1.2	1.0	0.9	0.8
Chromium	.3	MG/KG	39	39	40	42	37	33
Cobalt	.2	MG/KG	4.4	4.0	5.4	5.2	6.1	6.5
Cyanide, Total	.1	MG/KG	NR	1.85	NR	NR	2.40	NR
Copper	.4	MG/KG	678	604	743	728	619	567
Iron	20	MG/KG	92700	89900	93700	100000	102000	96800
Lead	2	MG/KG	26	23	27	21	21	20
Manganese	.2	MG/KG	341	331	348	327	314	301
Mercury	.2	MG/KG	0.89	1.05	1.12	1.28	1.27	1.17
Molybdenum	.1	MG/KG	16	15	15	18	17	17
Nickel	.3	MG/KG	35	34	35	35	32	30
Selenium	.7	MG/KG	4.04	5.03	2.98	4.29	2.90	4.94
Silver	.07	MG/KG	3.01	3.92	3.80	4.02	2.28	2.53
Thallium	1	MG/KG	ND	3	ND	ND	ND	2
Vanadium	.2	MG/KG	28	22	38	46	62	66
Zinc	.5	MG/KG	818	786	799	796	817	797
Sulfides-Reactive	11	MG/KG	88	49	108	130	69	63
Sulfides-Total	500	MG/KG	13100	8900	23800	18200	11400	9850
Total Nitrogen	.01	MG/KG	13900	49300	45700	48100	50100	55300#
Total Kjeldahl Nitrogen	.04	WT%	4.94	5.08	4.88	5.05	5.01	5.53
Total Volatile Solids		WT%	61.1	60.9	60.9	61.5	61.8	61.6
Total Solids		WT%	27.5	27.1	27.9	26.9	27.0	27.7
pH		PH	7.88	7.89	7.84	7.85	7.81	7.80

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

= Value is a sum calculation of Total kjeldahl nitrogen, Nitrate as N and Nitrite as N.

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2015 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015	28-DEC-2015
Sample ID:	MDL	Units	P798504	P803550	P809985	P815009	P822361	P829082
Aluminum	4	MG/KG	3980	3890	3410	3920	3570	3510
Antimony	.5	MG/KG	3.3	2.9	3.4	3.5	3.4	3.5
Arsenic	.7	MG/KG	3.03	4.21	3.25	3.71	3.53	3.84
Barium	.05	MG/KG	435	409	349	423	407	439
Beryllium	.02	MG/KG	<0.02	<0.02	0.04	ND	0.02	ND
Cadmium	.1	MG/KG	1.0	1.0	0.9	1.1	1.0	0.9
Chromium	.3	MG/KG	40	43	39	47	47	38
Cobalt	.2	MG/KG	6.5	5.7	5.2	5.6	5.8	5.2
Cyanide, Total	.1	MG/KG	NR	22.00	NR	12.60	NR	NR
Copper	.4	MG/KG	674	704	567	639	612	517
Iron	20	MG/KG	106000	100000	96400	113000	103000	101000
Lead	2	MG/KG	23	21	19	21	21	20
Manganese	.2	MG/KG	335	339	295	336	293	332
Mercury	.2	MG/KG	0.87	0.91	1.06	0.76	0.87	0.20
Molybdenum	.1	MG/KG	21	21	21	24	22	18
Nickel	.3	MG/KG	30	31	32	37	35	31
Selenium	.7	MG/KG	2.21	7.98	4.18	5.65	4.99	4.65
Silver	.07	MG/KG	3.09	2.35	2.23	2.28	2.60	2.11
Thallium	1	MG/KG	ND	1	ND	ND	ND	1
Vanadium	.2	MG/KG	71	54	43	48	50	47
Zinc	.5	MG/KG	1010	752	850	991	901	899
Sulfides-Reactive	11	MG/KG	126	54	92	103	66	60
Sulfides-Total	500	MG/KG	12600	23700	14800	15200	14200	6050
Total Nitrogen	.01	MG/KG	49900#	30400#	48200#	47000#	57600#	52600#
Total Kjeldahl Nitrogen	.04	WT%	4.99	4.94	4.82	4.70	5.76	5.26
Total Volatile Solids		WT%	61.5	61.3	60.9	61.7	60.8	61.8
Total Solids		WT%	26.6	26.8	26.7	26.1	26.7	26.6
pH		PH	7.91	7.74	7.78	7.68	7.86	7.74

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

Value is a sum calculation of Total kjeldahl nitrogen, Nitrate as N and Nitrite as N.

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

METRO BIOSOLIDS CENTER

Total Nitrogen Analysis

2015 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015	31-JUL-2015
Sample:	MDL	Units	P758659	P769990	P775406	P782251	P786786	P792465	P798504
Total Nitrogen	.01	MG/KG	13900	49300	45700	48100	50100	55300	49900

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015	28-DEC-2015
Sample:	MDL	Units	P803550	P809985	P815009	P822361	P829082
Total Nitrogen	.01	MG/KG	30400	48200	47000	57600	52600

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

POINT LOMA WASTEWATER TREATMENT PLANT/ METRO BIOSOLIDS CENTER

Radioactivity

2015 Annual

ANALYZED BY: TestAmerica Labs Inc.

Source	Sample Date	Sample ID	Gross Alpha Radiation	Gross Beta Radiation
PLE	03-FEB-2015	P755927	0.3±8.9	41.6±13.0
PLE	05-MAY-2015	P778631	-1.6±7.1	38.5±7.8
PLE	04-AUG-2015	P795056	-1.1±8.7	29.8±7.3
PLE	08-OCT-2015	P812596	5.8±8.3	37.6±8.7
PLE	ANNUAL	AVERAGE	0.9±8.3	36.9±9.2
PLR	03-FEB-2015	P755933	2.7±9.4	34.9±11.5
PLR	05-MAY-2015	P778637	0.4±6.3	35.1±7.3
PLR	04-AUG-2015	P795062	3.7±7.0	26.8±6.8
PLR	08-OCT-2015	P812595	1.4±6.6	33.2±7.0
PLR	ANNUAL	AVERAGE	2.1±7.3	32.5±8.1
MBC_COMBCN	03-FEB-2015	P755944	4.1±20.0	69.0±17.0
MBC_COMBCN	05-MAY-2015	P778648	2.4±6.6	49.0±8.1
MBC_COMBCN	04-AUG-2015	P795073	7.4±8.2	42.3±8.6
MBC_COMBCN	06-OCT-2015	P807274	5.6±8.6	45.0±9.9
MBC_COMBCN	ANNUAL	AVERAGE	4.9±10.9	51.3±10.9

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

METRO BIOSOLIDS CENTER

Radioactivity

2015 Annual

ANALYZED BY: TestAmerica Labs Inc.

Source	Sample Date	Sample ID		Gross Alpha Radiation	Gross Beta Radiation
MBCDEWCN	28-FEB-2015	P769990		4130.0±4300.0	8980.0±2000.0
MBCDEWCN	31-MAY-2015	P786786		3210.0±4050.0	10100.0±2100.0
MBCDEWCN	31-AUG-2015	P803550		6010.0±4900.0	15900.0±2700.0
MBCDEWCN	31-OCT-2015	P815009		3900.0±4600.0	14100.0±2500.0
AVERAGE				4312.5±4462.5	12270.0±2325.0

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

2015 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015
Analyte	MDL	Units	P758659	P769990	P775406	P782251	P786786
Aldrin	640	NG/KG	ND	ND	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND	ND	ND
Alpha Chlordene	0	NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene	0	NG/KG	NA	NA	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0	0	0
DDT and derivatives	970	NG/KG	0	0	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0	0	0	0

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

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2015 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			30-JUN-2015	31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015
Analyte	MDL	Units	P792465	P798504	P803550	P809985	P815009
Aldrin	640	NG/KG	ND	ND	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND	ND	ND
Alpha Chlordene	0	NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene	0	NG/KG	NA	NA	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0	0	0
DDT and derivatives	970	NG/KG	0	0	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	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
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2015 Annual

Source			MBCDEWCN	MBCDEWCN	
Date			30-NOV-2015	28-DEC-2015	Annual
Analyte	MDL	Units	P822361	P829082	Average
Aldrin	640	NG/KG	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND
Alpha Chlordene	0	NG/KG	NA	NA	NA
Gamma Chlordene	0	NG/KG	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0
DDT and derivatives	970	NG/KG	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0	0

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

METRO BIOSOLIDS CENTER

Tributyl Tin (Sludge)

2015 Annual

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2015	31-OCT-2015
Analyte			P786786	P815009
Monobutyltin	4000	UG/KG	ND	ND
Tributyltin	2600	UG/KG	ND	ND

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

METRO BIOSOLIDS CENTER

Herbicide Analysis

2015 Annual

Source:			MBCDEWCN	MBCDEWCN
Date:			31-MAY-2015	31-OCT-2015
Sample:	MDL	Units	P786786	P815009
2,4-Dichlorophenoxyacetic acid	.0695	MG/KG	ND	ND^
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND^

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

^ = LCS or LCSD is outside acceptance limits. Result exceeded calibration range. Value is not reportable.

METRO BIOSOLIDS CENTER

Organophosphorus Pesticides

2015 Annual

Source			MBC_COMBCN	MBC_COMBCN
Date			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778648	P807274
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			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778702	P807328
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

2015 Annual

Source			MBC_NC_RSL	MBC_NC_RSL
Date			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778700	P807326
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			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778673	P807299
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

2015 Annual

Source			DIG COMP	DIG COMP
Date			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778687	P807313
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			MBCDEWCN	MBCDEWCN
Date			31-MAY-2015	31-OCT-2015
Analyte	MDL	Units	P786786	P815009
Demeton O	67	UG/KG	ND	ND
Demeton S	27	UG/KG	ND	ND
Diazinon		UG/KG	ND	ND
Guthion	33	UG/KG	ND	ND
Malathion	20	UG/KG	ND	ND
Parathion	20	UG/KG	ND	ND
Chlorpyrifos		UG/KG	ND	ND
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	0.0

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

METRO BIOSOLIDS CENTER
Base/Neutrals

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2015	31-MAY-2015	31-AUG-2015	31-OCT-2015
Analyte	MDL	Units	P769990	P786786	P803550	P815009
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	ND	1610	660
Di-n-butyl phthalate	330	UG/KG	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	330	UG/KG	67100	64300	69700	67000
Diethyl phthalate	330	UG/KG	ND	ND	<330	ND
Dimethyl phthalate	330	UG/KG	ND	ND	ND	ND
Di-n-octyl phthalate	330	UG/KG	470	ND	1440	2020
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	ND	<330
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	505	ND	355
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	ND	ND	<330
Pyrene	330	UG/KG	ND	<330	<330	<330
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	0	0	0
Base/Neutral Compounds	330	UG/KG	67570	64805	72750	70035
Dichlorobenzenes	330	UG/KG	0	0	0	0
Additional Compounds						
Benzo[e]pyrene		UG/KG	ND	ND	ND	ND
Biphenyl		UG/KG	ND	680	ND	255
2,6-Dimethylnaphthalene		UG/KG	890	1320	1320	1220
1-Methylnaphthalene		UG/KG	ND	215	ND	120
1-Methylphenanthrene		UG/KG	ND	ND	ND	ND
2-Methylnaphthalene		UG/KG	315	570	321	390
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

* = QC acceptance criteria for spike and check standards was not met for this analyte on this date of analysis.

METRO BIOSOLIDS CENTER

Phenolics

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	
Date			28-FEB-2015	31-MAY-2015	31-AUG-2015	31-OCT-2015	
Analyte	MDL	Units	P769990	P786786	P803550	P815009	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	500	ND	125
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	3600	3950	2980	2460	3248
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	4950	6700	4500	3345	4874
Phenols	800	UG/KG	4950	6700	4500	3345	4874
Additional Analytes Determined;							
2-Methylphenol	330	UG/KG	ND	1300	ND	ND	325
4-Methylphenol(3-MP is unresolved)	330	UG/KG	1350	1450	1020	885	1176
2,4,5-Trichlorophenol	800	UG/KG	ND	ND	ND	ND	ND
Phenols average	800	UG/KG	327	359	316	224	307

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

METRO BIOSOLIDS CENTER
Purgeables

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			02-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015
Analyte	MDL	Units	P751631	P769990	P775406	P782251	P786786	P792465
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	DNQ33.0	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	29.0	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND	DNQ9.0
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	47.0	42.5
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	417.0	304.0	265.0	332.0	264.0
Methylene chloride	3.5	UG/KG	ND	DNQ17.6	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	85.0	80.0	70.0	69.0	68.0
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	0.0	502	384.0	335.0	477	374.5
Additional analytes determined;								
Acetone	31.4	UG/KG	ND	19400	20400	18100	13400	24100
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	ND	6440	7430	6840	5530	9470
Carbon disulfide	4.7	UG/KG	ND	55.0	61.0	97.5	73.5	111.0
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	ND	DNQ27.5	19.5	133.0	23.5	DNQ16.0
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	ND	51.0	33.5	46.0	45.5	28.0
Styrene	1.7	UG/KG	ND	60.0	53.5	60.5	83.0	67.0
meta,para xylenes	4.2	UG/KG	ND	DNQ35.1	61.5	92.5	87.0	58.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	DNQ18.5	ND	ND	DNQ15.5	DNQ20.5

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.

METRO BIOSOLIDS CENTER
Purgeables

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			01-JUL-2015	31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015
Analyte	MDL	Units	P792466	P798504	P803550	P809985	P815009	P822361
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	DNQ27.1	ND	DNQ13.7	ND	DNQ9.1
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	<1.8	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	47.2	41.8	39.8	39.6	57.7
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	452.0	413.0	281.0	223.0	265.0
Methylene chloride	3.5	UG/KG	ND	DNQ4.9	ND	DNQ9.51*	<3.5	DNQ6.1
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	ND	136.0	72.9	74.7	57.4	62.9
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	0.0	635.2	527.7	395.5	320.0	385.6
Additional analytes determined;								
Acetone	31.4	UG/KG	ND	21300	15600	20900	21500	25400
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	ND	6090	4380	8440	6390	9500
Carbon disulfide	4.7	UG/KG	ND	80.7	74.9	129.0	149.0	232.0
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	ND	ND	25.5	DNQ26.0	24.7	ND
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	ND	42.7	29.0	32.2	29.4	38.1
Styrene	1.7	UG/KG	ND	56.9	48.9	35.3	24.8	41.9
meta,para xylenes	4.2	UG/KG	ND	82.5	56.1	63.1	58.8	DNQ72.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	31.9	23.6	27.3	24.3	25.3

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

*= The RSD of analyte response factor is above 15% calibration criteria limit; therefore sample is not included in averages.

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

METRO BIOSOLIDS CENTER
Purgeables

Annual 2015

Source			MBCDEWCN	Average
Date			28-DEC-2015	
Analyte	MDL	Units	P829082	
Acrolein	6.4	UG/KG	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND
Benzene	2.1	UG/KG	ND	0.0
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	ND
Chloromethane	3.4	UG/KG	ND	0.0
Dibromochloromethane	2.4	UG/KG	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	0.0
1,3-Dichlorobenzene	1.8	UG/KG	ND	0.0
1,4-Dichlorobenzene	1.5	UG/KG	60.8	29.0
Dichlorodifluoromethane	5.56	UG/KG	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND
1,1-Dichloroethene	5	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	201	262.8
Methylene chloride	3.5	UG/KG	DNQ7.56*	0.0
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND
Toluene	1.2	UG/KG	73.1	65.3
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
Trichlorofluoromethane	2.2	UG/KG	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0
Purgeable Compounds	6.9	UG/KG	334.9	368.6
Additional analytes determined;				
Acetone	31.4	UG/KG	10600	16208
Allyl chloride	3.6	UG/KG	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND
2-Butanone	36.3	UG/KG	4360	5759.2
Carbon disulfide	4.7	UG/KG	98.1	89.4
Chloroprene	3.1	UG/KG	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	18.9
Methyl Iodide	3.8	UG/KG	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND
ortho-xylene	1.9	UG/KG	35.8	31.6
Styrene	1.7	UG/KG	24.3	42.8
meta,para xylenes	4.2	UG/KG	66.2	46.6
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	20.7	16.0

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

*= The RSD of analyte response factor is above 15% calibration criteria limit; therefore sample is not included in averages.

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

2015 Annual

Analyzed by: Frontier Analytical Laboratories

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN*
Date			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015	31-JUL-2015
Analyte	MDL	Units	P758659	P769990	P775406	P782251	P786786	P792465	P798504
2,3,7,8-tetra CDD	.18	NG/KG	DNQ0.75	ND	DNQ0.83	DNQ0.75	DNQ0.53	ND	DNQ0.11
1,2,3,7,8-penta CDD	10	NG/KG	ND	DNQ3.51	DNQ3.60	ND	DNQ1.85	ND	ND
1,2,3,4,7,8_hexa_CDD	.85	NG/KG	DNQ1.82	DNQ1.36	DNQ1.60	DNQ1.82	DNQ1.27	ND	ND
1,2,3,6,7,8-hexa CDD	.74	NG/KG	14.80	12.60	15.50	16.40	17.10	DNQ0.31	DNQ0.80
1,2,3,7,8,9-hexa CDD	.7	NG/KG	DNQ4.60	DNQ4.13	5.14	DNQ5.47	DNQ5.08	DNQ0.30	ND
1,2,3,4,6,7,8-hepta CDD	.71	NG/KG	216.00	191.00	311.00	271.00	214.00	<0.42	29.00
octa CDD	2.4	NG/KG	1330.00	1270.00	1800.00	1400.00	1160.00	<0.32	270.00
2,3,7,8-tetra CDF	.6	NG/KG	3.00	3.22	3.47	4.47	3.77	DNQ0.22	DNQ1.80
1,2,3,7,8-penta CDF	.19	NG/KG	DNQ1.33	DNQ1.41	DNQ1.47	DNQ1.86	DNQ1.61	ND	DNQ0.39
2,3,4,7,8-penta CDF	.19	NG/KG	DNQ2.39	DNQ2.31	DNQ1.81	DNQ1.52	DNQ1.83	DNQ0.19	DNQ0.45
1,2,3,4,7,8-hexa CDF	.15	NG/KG	DNQ2.40	DNQ2.65	DNQ2.59	DNQ2.39	DNQ2.47	DNQ0.15	DNQ0.46
1,2,3,6,7,8-hexa CDF	.28	NG/KG	DNQ2.14	DNQ2.67	DNQ2.28	DNQ2.53	DNQ2.12	DNQ0.16	DNQ0.78
1,2,3,7,8,9-hexa CDF	.18	NG/KG	ND	DNQ0.75	DNQ0.85	DNQ0.78	DNQ0.78	ND	ND
2,3,4,6,7,8-hexa CDF	.17	NG/KG	DNQ2.25	DNQ2.35	DNQ2.39	DNQ2.63	DNQ2.43	DNQ0.12	DNQ0.45
1,2,3,4,6,7,8-hepta CDF	6.6	NG/KG	23.10	22.60	26.90	25.60	24.10	<1.60	DNQ4.10
1,2,3,4,7,8,9-hepta CDF	2	NG/KG	DNQ1.48	DNQ1.57	DNQ1.80	DNQ1.79	DNQ1.53	ND	ND
octa CDF	.23	NG/KG	55.3	54.0	71.9	59.7	56.5	DNQ0.2	13.0

Source			MBCDEWCN*	MBCDEWCN*	MBCDEWCN*	MBCDEWCN*	MBCDEWCN
Date			31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015	28-DEC-2015
Analyte	MDL	Units	P803550	P809985	P815009	P822361	P829082
2,3,7,8-tetra CDD	.18	NG/KG	ND	DNQ0.15	DNQ0.18	DNQ0.01	DNQ0.02
1,2,3,7,8-penta CDD	10	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.03
1,2,3,4,7,8_hexa_CDD	.85	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.03
1,2,3,6,7,8-hexa CDD	.74	NG/KG	DNQ0.31	DNQ0.34	DNQ0.34	<0.03	<0.03
1,2,3,7,8,9-hexa CDD	.7	NG/KG	DNQ0.29	DNQ0.30	ND	DNQ0.03	DNQ0.03
1,2,3,4,6,7,8-hepta CDD	.71	NG/KG	<0.71	<0.42	<0.24	0.17	0.20
octa CDD	2.4	NG/KG	<2.40	0.27	<0.27	1.17	1.08
2,3,7,8-tetra CDF	.6	NG/KG	DNQ0.18	DNQ0.60	DNQ0.48	<0.01	<0.02
1,2,3,7,8-penta CDF	.19	NG/KG	DNQ0.11	ND	ND	DNQ0.02	DNQ0.02
2,3,4,7,8-penta CDF	.19	NG/KG	DNQ0.12	ND	ND	DNQ0.02	DNQ0.02
1,2,3,4,7,8-hexa CDF	.15	NG/KG	DNQ0.15	DNQ0.12	DNQ0.13	DNQ0.02	DNQ0.03
1,2,3,6,7,8-hexa CDF	.28	NG/KG	DNQ0.28	DNQ0.14	DNQ0.14	DNQ0.02	DNQ0.03
1,2,3,7,8,9-hexa CDF	.18	NG/KG	ND	ND	ND	DNQ0.02	DNQ0.03
2,3,4,6,7,8-hexa CDF	.17	NG/KG	DNQ0.17	DNQ0.13	DNQ0.14	DNQ0.02	DNQ0.02
1,2,3,4,6,7,8-hepta CDF	6.6	NG/KG	DNQ1.10	ND	DNQ1.40	<0.03	<0.03
1,2,3,4,7,8,9-hepta CDF	2	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.04
octa CDF	.23	NG/KG	DNQ0.2	DNQ0.2	DNQ0.2	<0.1	0.1

* = Samples analyzed by TestAmerica from July to November 2015.

ND = not detected
NA = not analyzed
NS = not sampled
DNQ= (Detected but not quantified). Estimated analyte concentration below calibration range.

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.

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CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TEST (TITLE 22)

METRO BIOSOLIDS CENTER (MBC)

METALS **WET WEIGHT Concentration (calculated)**

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-15 P758659	MBCDEWCN Feb-15 P769990	MBCDEWCN Mar-15 P775406	MBCDEWCN Apr-15 P775406	MBCDEWCN May-15 P786786	MBCDEWCN Jun-15 P792465	MBCDEWCN Jul-15 P798504	MBCDEWCN Aug-15 P803550	MBCDEWCN Sep-15 P809985	MBCDEWCN Oct-15 P815009	MBCDEWCN Nov-15 P822361	MBCDEWCN Dec-15 P829082
ANTIMONY	500	12.654	1.11	0.95	1.05	0.86	0.83	0.88	0.78	0.91	0.91	0.91	0.93
ARSENIC	500	1.26	0.94	1.0	0.9	0.8	0.8	0.81	1.1	0.9	1.0	0.9	1.0
BARIUM	10000	108	103	111	55	97	108	116	110	93	110	109	117
BERYLLIUM	75	0.028	0.021	0.025	0.011	< 0.005	< 0.006	< 0.005	0.003	0.011	< 0.005	0.005	< 0.005
CADMIUM	100	0.288	0.284	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	10.77	10.6	11	11	10	9	11	11	10	12	12	10
COBALT	8000	1.208	1.07	1.5	1.4	1.6	1.8	1.7	1.5	1.4	1.5	1.5	1.4
COPPER	2500	186	163	207	196	167	157	179	189	151	167	163	138
LEAD	1000	7	6.2	7	6	6	6	6	6	5	5	6	5
MERCURY	20	0.243	0.284	0.31	0.35	0.35	0.32	0.23	0.24	0.29	0.20	0.23	0.05
MOLYBDENUM	3500	4.47	3.99	4.2	4.7	4.7	4.7	5.7	5.6	5.5	6.3	5.8	4.8
NICKEL	2000	9.511	9.14	10	9	9	8	8	8	9	10	9	8
SELENIUM	100	1.11	1.36	0.8	1.2	0.8	1.4	0.6	2.1	1.1	1.5	1.3	1.2
SILVER	500	0.826	1.06	1	1	1	1	1	1	1	1	1	1
THALLIUM	700	< 0.28	0.812	< 0.28	< 0.27	< 0.27	0.42	< 0.27	< 0.13	< 0.27	< 0.26	< 0.27	< 0.27
VANADIUM	2400	7.549	6.01	11	12	17	18	19	15	12	12	13	12
ZINC	5000	225	212	223	214	221	221	269	202	227	259	241	239
FLUORIDE	18000	10.184	8.67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFIDES-REACTIVE	NA	24	13	30	35	19	17	34	14	25	27	NA	16
SULFIDES-TOTAL	NA	3596	2407	6640	4882	3078	2728	3338	6338	3952	3967	3778	1609
TOTAL SOLIDS (%)		27.5	27.1	27.9	26.9	27.0	27.7	26.6	26.8	26.7	26.1	26.7	26.6

DRY WEIGHT Concentration

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-15 P758659	MBCDEWCN Feb-15 P769990	MBCDEWCN Mar-15 P775406	MBCDEWCN Apr-15 P775406	MBCDEWCN May-15 P786786	MBCDEWCN Jun-15 P792465	MBCDEWCN Jul-15 P798504	MBCDEWCN Aug-15 P803550	MBCDEWCN Sep-15 P809985	MBCDEWCN Oct-15 P815009	MBCDEWCN Nov-15 P822361	MBCDEWCN Dec-15 P829082
ANTIMONY	500	46.1	4.1	3.4	3.9	3.2	3.0	3.3	2.9	3.4	3.50	3.4	3.5
ARSENIC	500	4.6	3.49	3.5	3.31	3.01	2.97	3.03	4.21	3.25	3.7	3.50	3.84
BARIUM	10000	395	381	397	204	359	390	435	409	349	423	407	439
BERYLLIUM	75	0.10	0.08	0.09	0.04	< 0.02	< 0.02	< 0.02	0.01	0.04	< 0.02	0.02	< 0.02
CADMIUM	100	1.1	1.1	1.2	1.0	0.9	0.8	1.0	1.0	0.9	1.1	1.0	0.9
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	39.3	39.1	39.7	41.9	37.4	33	40.4	42.5	39.3	46.6	46.5	38.3
COBALT	8000	4.4	4.0	5.4	5.2	6.10	6.5	6.5	5.7	5.2	5.6	5.8	5.2
COPPER	2500	678	604	743	728	619	567	674	704	567	639	612	517
LEAD	1000	26	23	26.5	21	20.5	20	23	21	19	21	21	20
MERCURY	20	0.9	1.1	1.1	1.30	1.3	1.2	0.9	0.9	1.1	0.76	0.87	0.2
MOLYBDENUM	3500	16.3	14.8	14.9	17.5	17.3	16.8	21.4	21	20.6	24.0	21.6	18.2
NICKEL	2000	34.7	33.8	35.4	35	31.5	29.9	30.1	31.1	31.9	36.9	34.8	31.2
SELENIUM	100	4.04	5.03	2.98	4.29	2.90	4.94	2.21	7.98	4.18	5.65	4.99	4.65
SILVER	500	3.01	3.92	3.8	4.02	2.28	2.53	3.09	2.35	2.23	2.28	2.6	2.11
THALLIUM	700	< 1	3	< 1	< 1	< 1	1.5	< 1	< 0.5	< 1	< 1	< 1	< 1
VANADIUM	2400	27.5	22.2	38	45.6	62.2	66.2	70.7	54.3	43.3	47.8	49.6	46.5
ZINC	5000	818	786	799	796	817	797	1012	752	850	991	901	899
FLUORIDE	18000	37.1	32.1	32.7	31.1	28.8	22.8	21.1	24	20.5	20.4	22.5	14.9
SULFIDES-REACTIVE	NA	88	49	108	130	69	63	126	54	92	103	66	60
SULFIDES-TOTAL	NA	13100	8900	23800	18150	11400	9850	12550	23650	14800	15200	14150	6050

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.

CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TEST (TITLE 22)

METRO BIOSOLIDS CENTER (MBC)

ORGANICS

WET WEIGHT Concentration (calculated)

ANALYTE	**TTLC** Wet wt mg/Kg	MBCDEWCN Jan-15 P758659	MBCDEWCN Feb-15 P769990	MBCDEWCN Mar-15 P775406	MBCDEWCN Apr-15 P775406	MBCDEWCN May-15 P786786	MBCDEWCN Jun-15 P792465	MBCDEWCN Jul-15 P798504	MBCDEWCN Aug-15 P803550	MBCDEWCN Sep-15 P809985	MBCDEWCN Oct-15 P815009	MBCDEWCN Nov-15 P822361	MBCDEWCN Dec-15 P829082
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DDT,DDE,DDD	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4-DCPAA	100	NA	NA	NA	NA	nd	NA	NA	nd	NA	NA	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	nd	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	NA	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	NA	NA	NA	nd	NA	NA	nd	NA	nd	NA	NA
TOTAL SOLIDS (%)		27.5	27.1	27.9	26.9	27.0	27.7	26.6	26.8	26.7	26.1	26.7	26.6
pH	>2-<12	7.88	7.89	7.84	7.85	7.81	7.80	7.91	7.74	7.74	7.68	7.86	7.74

DRY WEIGHT Concentration

ANALYTE	**TTLC** Wet wt mg/Kg	MBCDEWCN Jan-15 P758659	MBCDEWCN Feb-15 P769990	MBCDEWCN Mar-15 P775406	MBCDEWCN Apr-15 P775406	MBCDEWCN May-15 P786786	MBCDEWCN Jun-15 P792465	MBCDEWCN Jul-15 P798504	MBCDEWCN Aug-15 P803550	MBCDEWCN Sep-15 P809985	MBCDEWCN Oct-15 P815009	MBCDEWCN Nov-15 P822361	MBCDEWCN Dec-15 P829082
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DDT,DDE,DDD	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4-DCPAA	100	NA	NA	NA	NA	nd	NA	NA	nd	NA	NA	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	nd	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	NA	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	NA	NA	NA	nd	NA	NA	nd	NA	nd	NA	NA

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

2015 POINT LOMA WASTEWATER TREATMENT PLANT ANNUAL REPORT

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CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TEST (TITLE 22)

METRO BIOSOLIDS CENTER (MBC)

	STLC	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
	Wet wt	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
ANALYTE	mg/L	P758659	P769990	P775406	P775406	P786786	P792465	P798504	P803550	P809985	P815009	P822361	P829082
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

	STLC	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
	Wet wt	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
ANALYTE	mg/L	P758659	P769990	P775406	P775406	P786786	P792465	P575132	P803550	P809985	P815009	P822361	P829082
ALDRIN	0.14	*	*	*	*	*	*	*	*	*	*	*	*
CHLORDANE	0.25	*	*	*	*	*	*	*	*	*	*	*	*
DDT,DDE,DDD	0.1	*	*	*	*	*	*	*	*	*	*	*	*
2,4-DCPAA	10	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	*	*	*	*	NA	*	*	*	*	*	*	*
2,4,5-TCPPA	1	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.

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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

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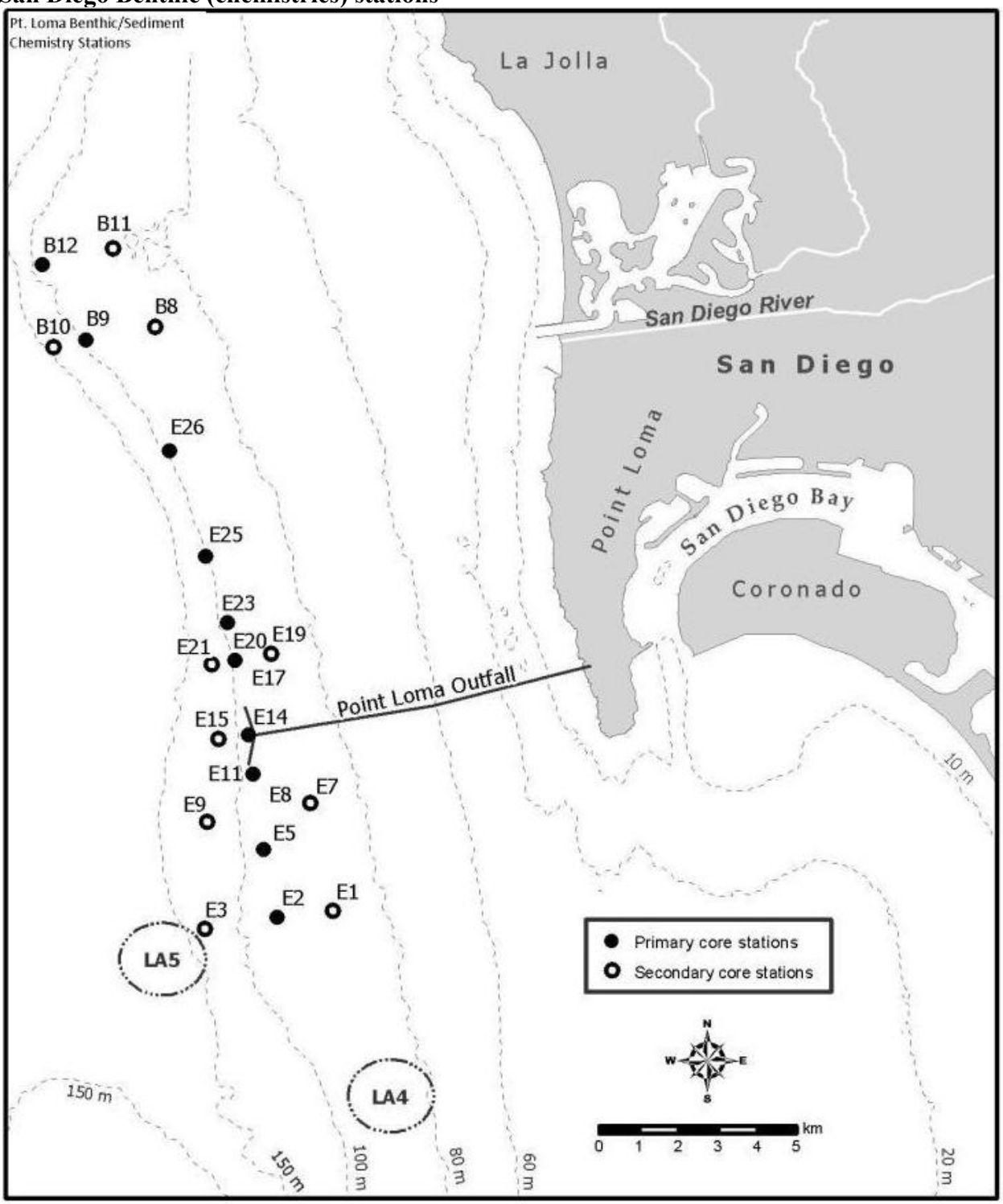
San Diego Benthic (chemistries) stations



POINT LOMA WASTEWATER TREATMENT PLANT

OCEAN SEDIMENT ANNUAL

Annual 2015

Biochemical Oxygen Demand
(mg/Kg)

STATION	DATE	First Quarter	Third Quarter	Average of All Quarters
B-8		322*	338*	320^
B-9		291*	214*	253^
B-10		323*	306*	315^
B-11		301*	419	419
B-12		400*	327	327
E-1		183	260	222
E-2		161	230	196
E-3		100	185	143
E-5		188	192*	188
E-7		227	382*	227
E-8		194	267*	194
E-9		215	487*	215
E-11		271*	300	300
E-14		297*	456	456
E-15		271*	267	267
E-17		316*	265	265
E-19		351*	419	419
E-20		501*	235	235
E-21		162*	242	242
E-23		219*	349	349
E-25		285*	213*	249^
E-26		391*	241*	316^

* = The internal check result in these batches were below acceptance criteria; therefore are not reportable.

^ = Not a representative average calculation, shown only for historical information.

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

POINT LOMA WASTEWATER TREATMENT PLANT

OCEAN SEDIMENT ANNUAL

Annual 2015

Sulfides, Total
(mg/Kg)

STATION	DATE	First Quarter	Third Quarter	Average of All Quarters
A-2		NS	9.7	9.7
A-5		NS	5.7	5.7
A-8		NS	4.9	4.9
A-9		NS	14.1	14.1
A-15		NS	5.2	5.2
A-16		NS	5.7	5.7
B-3		NS	2.6	2.6
B-5		NS	3.7	3.7
B-8		3.5	3.0	3.3
B-9		7.0	2.5	4.8
B-10		4.7	4.1	4.4
B-11		5.9	1.3	3.6
B-12		2.2	1.2	1.7
E-1		4.5	2.6	3.6
E-2		3.7	6.2	5.0
E-3		3.5	3.5	3.5
E-5		4.7	2.9	3.8
E-7		4.4	3.0	3.7
E-8		4.1	10.6	7.4
E-9		3.3	2.1	2.7
E-11		5.6	12.7	9.2
E-14		49.2	76.5	62.9
E-15		8.4	7.3	7.9
E-17		9.1	5.1	7.1
E-19		4.9	4.4	4.7
E-20		5.6	3.1	4.4
E-21		4.1	3.2	3.7
E-23		5.0	3.7	4.4
E-25		3.8	2.6	3.2
E-26		5.6	3.6	4.6

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

POINT LOMA WASTEWATER TREATMENT PLANT

OCEAN SEDIMENT ANNUAL

From 01-JAN-2015 To 31-DEC-2015

Total Volatile Solids
(% Weight)

STATION	DATE	First Quarter	Third Quarter	Average of All Quarters
A-2		NS	2.3	2.3
A-5		NS	2.9	2.9
A-8		NS	2.7	2.7
A-9		NS	2.8	2.8
A-15		NS	2.9	2.9
A-16		NS	2.4	2.4
B-3		NS	2.2	2.2
B-5		NS	2.8	2.8
B-8		3.1	3.0	3.1
B-9		2.8	2.9	2.9
B-10		2.4	2.2	2.3
B-11		3.5	4.2	3.9
B-12		2.9	2.9	2.9
E-1		2.4	1.8	2.1
E-2		2.5	2.5	2.5
E-3		1.7	2.0	1.9
E-5		2.1	2.0	2.1
E-7		2.4	2.2	2.3
E-8		1.9	2.3	2.1
E-9		2.5	2.3	2.4
E-11		2.1	2.2	2.2
E-14		1.8	1.7	1.8
E-15		2.1	2.2	2.2
E-17		2.0	2.1	2.1
E-19		2.6	2.5	2.6
E-20		2.0	1.8	1.9
E-21		2.0	2.1	2.1
E-23		2.2	2.3	2.3
E-25		2.4	2.1	2.3
E-26		1.9	2.6	2.3

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 2015

Source		A-2	A-5	A-8	A-9	A-15	A-16	B-3
		P796338	P796340	P796345	P796352	P796327	P796333	P799003
Analyte	Units:	14-JUL-2015	14-JUL-2015	14-JUL-2015	14-JUL-2015	14-JUL-2015	14-JUL-2015	30-JUL-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.123	0.136	0.132	0.129	0.143	0.123	0.119
>3.9 to 7.8		3.730	4.160	3.970	3.970	4.320	3.730	3.970
>7.8 to 15.6		11.100	12.700	11.900	12.200	13.000	11.300	12.700
>15.6 to 31		8.410	10.000	9.020	9.820	9.810	9.030	10.100
>31 to 62.5		19.600	23.900	20.700	23.100	20.900	22.500	21.400
>62.5 to 125		42.100	39.200	40.900	39.400	38.200	41.400	38.500
>125 to 250		14.100	9.740	12.700	10.700	12.800	11.500	12.600
>250 to 500		0.793	0.193	0.684	0.597	0.837	0.527	0.601
>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:		99.956	100.029	100.006	99.916	100.010	100.110	99.990

Source		B-5	B-8	B-8	B-9	B-9	B-11	B-12
		P797737	P756198	P799015	P756206	P799022	P797743	P756197
Analyte	Units:	23-JUL-2015	12-JAN-2015	30-JUL-2015	12-JAN-2015	30-JUL-2015	23-JUL-2015	12-JAN-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.123	0.114	0.132	0.127	0.119	0.172	0.397
>3.9 to 7.8		4.610	4.440	4.610	4.640	4.290	5.660	4.820
>7.8 to 15.6		14.200	15.900	15.700	14.300	13.000	16.300	7.970
>15.6 to 31		9.420	14.300	14.100	9.480	8.710	10.000	5.670
>31 to 62.5		20.200	29.200	29.500	19.500	19.000	14.700	12.500
>62.5 to 125		40.400	30.700	30.700	37.500	38.800	23.900	20.900
>125 to 250		10.800	5.300	5.240	13.100	14.600	15.700	22.200
>250 to 500		0.124	0.085	0.086	1.210	1.470	8.490	19.600
>500 to 1000		0.000	0.000	0.000	0.000	0.000	3.070	5.910
>1000 to 2000		0.000	0.000	0.000	0.000	0.000	1.980	0.000
>2000*		ND	ND	ND	ND	ND	ND	ND
Totals:		99.877	100.039	100.068	99.857	99.989	99.972	99.967

ND= Not Detected

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

Annual 2015

Source		B-12	E-1	E-1	E-2	E-5	E-5	E-7
		P797748	P754524	P796505	P796514	P754542	P799037	P754509
Analyte	Units:	23-JUL-2015	07-JAN-2015	15-JUL-2015	15-JUL-2015	07-JAN-2015	30-JUL-2015	07-JAN-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.077	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.372	1.540	0.326	0.121	0.135	0.143	0.000
>3.9 to 7.8		4.570	7.610	4.680	4.020	3.610	3.630	3.470
>7.8 to 15.6		7.500	15.100	12.100	11.900	9.570	9.180	11.000
>15.6 to 31		5.130	9.820	9.020	8.480	6.950	6.500	9.190
>31 to 62.5		10.700	15.600	17.100	17.100	18.500	18.100	25.500
>62.5 to 125		17.400	23.000	29.000	32.800	41.900	42.600	40.700
>125 to 250		22.000	14.600	20.900	20.400	17.600	18.100	9.890
>250 to 500		25.200	7.200	6.820	5.240	1.690	1.760	0.175
>500 to 1000		7.090	3.850	0.039	0.000	0.000	0.000	0.000
>1000 to 2000		0.030	1.540	0.000	0.000	0.000	0.000	0.000
>2000*		ND	ND	ND	ND	ND	ND	ND
Totals:		99.992	99.937	99.985	100.061	99.955	100.013	99.925

Source		E-7	E-8	E-8	E-9	E-11	E-11	E-14
		P799044	P754514	P799053	P754519	P756332	P797324	P756336
Analyte	Units:	30-JUL-2015	07-JAN-2015	30-JUL-2015	07-JAN-2015	13-JAN-2015	21-JUL-2015	13-JAN-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.128	0.109	0.279	0.284	0.135	0.130	0.132
>3.9 to 7.8		3.660	3.580	3.880	4.790	3.570	3.410	3.320
>7.8 to 15.6		10.800	10.200	9.510	11.600	8.780	8.710	7.740
>15.6 to 31		9.270	7.100	6.990	7.000	5.800	6.250	4.920
>31 to 62.5		24.900	18.500	19.700	16.200	17.900	19.600	16.300
>62.5 to 125		40.400	43.900	43.000	30.900	45.000	46.400	49.200
>125 to 250		10.700	15.800	15.400	10.800	17.300	14.800	17.200
>250 to 500		0.188	0.811	1.210	4.100	1.540	0.727	1.210
>500 to 1000		0.000	0.000	0.000	8.450	0.000	0.000	0.000
>1000 to 2000		0.000	0.000	0.000	5.960	0.000	0.000	0.000
>2000*		ND	ND	ND	ND	ND	ND	ND
Totals:		100.046	100.000	99.969	100.084	100.025	100.027	100.022

ND= Not Detected

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

Annual 2015

Source		E-14	E-15	E-15	E-17	E-17	E-19	E-19
		P797330	P756345	P797339	P756349	P797343	P756358	P796355
Analyte	Units:	21-JUL-2015	13-JAN-2015	21-JUL-2015	13-JAN-2015	21-JUL-2015	13-JAN-2015	14-JUL-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.156	0.151	0.160	0.109	0.146	0.122	0.141
>3.9 to 7.8		4.140	4.040	3.830	3.410	3.510	3.860	3.960
>7.8 to 15.6		8.550	9.770	9.040	9.390	8.700	11.300	11.500
>15.6 to 31		4.570	5.690	5.730	6.480	6.240	9.210	9.830
>31 to 62.5		14.200	15.900	16.900	19.000	19.500	27.300	27.400
>62.5 to 125		49.700	46.900	47.000	46.400	47.000	40.000	38.900
>125 to 250		17.900	16.700	16.600	14.500	14.300	8.050	8.060
>250 to 500		0.822	0.804	0.828	0.627	0.601	0.132	0.151
>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:		100.038	99.955	100.088	99.916	99.997	99.974	99.942

Source		E-20	E-20	E-21	E-21	E-23	E-23	E-25
		P756210	P796365	P756218	P796369	P756225	P796374	P756232
Analyte	Units:	12-JAN-2015	14-JUL-2015	12-JAN-2015	14-JUL-2015	12-JAN-2015	14-JUL-2015	12-JAN-2015
>0.5 to 1.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000	0.000	0.000	0.000	0.000
>2.0 to 3.9		0.150	0.131	0.313	0.151	0.135	0.146	0.137
>3.9 to 7.8		4.390	3.610	4.160	3.750	3.740	3.720	3.690
>7.8 to 15.6		12.100	9.750	9.470	9.230	10.500	9.960	10.000
>15.6 to 31		8.380	7.270	6.160	6.090	8.460	8.070	7.740
>31 to 62.5		21.000	21.400	17.600	17.800	24.000	24.200	21.700
>62.5 to 125		42.100	45.300	46.700	47.600	41.900	42.800	42.300
>125 to 250		11.600	12.300	14.900	14.700	10.800	10.900	13.700
>250 to 500		0.185	0.189	0.641	0.644	0.518	0.192	0.708
>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:		99.905	99.950	99.944	99.965	100.053	99.988	99.975

ND= Not Detected

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

Annual 2015

Analyte	Units:	E-25 P799029 30-JUL-2015	E-26 P756239 12-JAN-2015	E-26 P799036 30-JUL-2015
>0.5 to 1.0		0.000	0.000	0.000
>1.0 to 2.0		0.000	0.000	0.000
>2.0 to 3.9		0.127	0.147	0.146
>3.9 to 7.8		3.670	4.300	4.440
>7.8 to 15.6		10.300	12.100	12.500
>15.6 to 31		7.780	9.020	8.970
>31 to 62.5		21.400	23.300	22.600
>62.5 to 125		42.300	41.000	40.900
>125 to 250		13.700	10.000	10.200
>250 to 500		0.698	0.154	0.171
>500 to 1000		0.000	0.000	0.000
>1000 to 2000		0.000	0.000	0.000
>2000*		ND	ND	ND
Totals:		99.975	100.021	99.927

ND= Not Detected

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

Annual 2015

Source			A-2	A-5	A-8	A-9	A-15	A-16	B-3
			Avg	Avg	Avg	Avg	Avg	Avg	Avg
			2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units							
Total Nitrogen	.01	WT%	0.031	0.022	0.025	0.038	0.037	0.043	0.040
Total Organic Carbon	.04	WT%	0.692	0.682	0.594	0.638	0.695	0.653	0.470

Source			B-5	B-8	B-9	B-10	B-11	B-12	E-1
			Avg	Avg	Avg	Avg	Avg	Avg	Avg
			2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units							
Total Nitrogen	.01	WT%	0.070	0.076	0.063	0.042	0.068	0.043	0.047
Total Organic Carbon	.04	WT%	0.646	0.757	0.691	0.879	2.080	1.910	0.470

Source			E-2	E-3	E-5	E-7	E-8	E-9	E-11
			Avg	Avg	Avg	Avg	Avg	Avg	Avg
			2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units							
Total Nitrogen	.01	WT%	0.046	0.029	0.043	0.055	0.042	0.070	0.047
Total Organic Carbon	.04	WT%	0.566	0.443	0.449	0.573	0.464	0.975	0.423

Source			E-14	E-15	E-17	E-19	E-20	E-21	E-23
			Avg	Avg	Avg	Avg	Avg	Avg	Avg
			2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units							
Total Nitrogen	.01	WT%	0.032	0.050	0.066	0.047	0.039	0.042	0.040
Total Organic Carbon	.04	WT%	0.404	0.561	0.479	0.584	0.479	0.449	0.492

Source			E-25	E-26
			Avg	Avg
			2015	2015
Analyte	MDL	Units		
Total Nitrogen	.01	WT%	0.037	0.050
Total Organic Carbon	.04	WT%	0.486	0.579

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

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

Annual 2015

Source:			A-2	A-5	A-8	A-9	A-15	A-16	B-3
Date:			2015	2015	2015	2015	2015	2015	2015
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	10700	10600	10800	10700	11800	10300	9610
Antimony	.3	MG/KG	0.9	1.0	1.0	0.9	0.9	0.9	0.8
Arsenic	.33	MG/KG	3.17	3.19	3.15	2.98	3.35	3.11	3.63
Barium	.02	MG/KG	59.0	58.0	62.1	59.6	67.7	55.9	44.7
Beryllium	.01	MG/KG	ND	ND	ND	ND	ND	ND	ND
Cadmium	.06	MG/KG	0.14	0.32	0.13	0.13	0.13	0.14	ND
Chromium	.1	MG/KG	19.7	19.6	20.0	19.8	22.0	19.4	17.5
Copper	.2	MG/KG	10.2	10.3	10.2	10.3	11.9	11.0	7.5
Iron	9	MG/KG	13700	14400	13800	13600	15200	13400	12500
Lead	.8	MG/KG	5.5	5.5	5.4	5.3	5.9	7.6	5.4
Manganese	.08	MG/KG	137	126	141	135	149	133	115
Mercury	.004	MG/KG	0.042	0.048	0.036	0.082	0.048	0.051	0.031
Nickel	.1	MG/KG	7.7	8.2	7.6	7.7	8.4	7.4	7.2
Selenium	.24	MG/KG	ND	ND	ND	0.25	ND	ND	ND
Silver	.04	MG/KG	ND	ND	ND	ND	ND	ND	ND
Thallium	.5	MG/KG	ND	ND	ND	ND	ND	ND	ND
Tin	.3	MG/KG	1.2	1.4	1.2	1.1	1.4	1.5	1.0
Zinc	.25	MG/KG	42.0	53.2	39.5	38.2	43.4	39.0	31.1

Source:			B-5	B-8	B-9	B-10	B-11	B-12	E-1
Date:			2015	2015	2015	2015	2015	2015	2015
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	10700	12400	9580	6830	11000	8070	10500
Antimony	.3	MG/KG	1.0	0.8	0.8	0.3	0.8	0.9	0.5
Arsenic	.33	MG/KG	3.08	3.04	3.65	2.24	4.06	5.29	2.94
Barium	.02	MG/KG	54.3	54.3	47.5	25.0	50.3	24.5	57.2
Beryllium	.01	MG/KG	ND	0.13	0.13	0.09	0.15	0.16	0.11
Cadmium	.06	MG/KG	0.09	ND	ND	ND	ND	ND	ND
Chromium	.1	MG/KG	21.6	22.2	23.0	16.6	24.3	29.0	17.6
Copper	.2	MG/KG	7.7	9.0	6.9	4.1	7.7	3.6	8.8
Iron	9	MG/KG	15400	15800	17700	11600	19900	23300	13000
Lead	.8	MG/KG	5.6	6.1	5.2	3.6	5.8	5.0	7.0
Manganese	.08	MG/KG	134	133	109	77	149	81	106
Mercury	.004	MG/KG	0.030	0.034	0.022	0.015	0.025	0.013	0.050
Nickel	.1	MG/KG	7.8	10.5	8.4	6.0	9.5	7.5	7.9
Selenium	.24	MG/KG	ND	<0.24	<0.24	<0.24	<0.24	ND	ND
Silver	.04	MG/KG	ND	ND	ND	ND	ND	ND	ND
Thallium	.5	MG/KG	ND	1.2	1.1	1.5	1.1	0.7	1.7
Tin	.3	MG/KG	1.1	1.0	0.5	0.5	0.7	0.4	0.8
Zinc	.25	MG/KG	37.3	40.6	38.7	26.2	42.6	39.9	34.6

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

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

Annual 2015

Source:			E-2	E-3	E-5	E-7	E-8	E-9	E-11
Date:			2015	2015	2015	2015	2015	2015	2015
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	10900	10000	8360	9660	8080	7480	6980
Antimony	.3	MG/KG	0.8	1.2	0.6	0.6	0.8	0.6	0.4
Arsenic	.33	MG/KG	2.64	2.21	2.26	2.90	2.04	2.75	2.28
Barium	.02	MG/KG	55.4	57.8	35.4	44.2	33.7	28.4	27.3
Beryllium	.01	MG/KG	0.11	0.09	0.09	0.10	0.08	0.10	0.07
Cadmium	.06	MG/KG	ND	<0.06	ND	ND	<0.06	ND	<0.06
Chromium	.1	MG/KG	17.9	19.0	15.2	16.9	14.8	17.3	13.2
Copper	.2	MG/KG	9.8	16.1	6.0	7.0	5.8	7.0	5.1
Iron	9	MG/KG	15000	13500	11000	12100	10400	12000	9060
Lead	.8	MG/KG	5.9	18.6	3.7	4.5	3.8	6.1	2.9
Manganese	.08	MG/KG	117	111	92	107	91	80	80
Mercury	.004	MG/KG	0.046	0.052	0.022	0.025	0.019	0.018	0.017
Nickel	.1	MG/KG	7.7	6.5	6.7	8.0	6.8	6.6	5.9
Selenium	.24	MG/KG	ND	ND	ND	ND	ND	<0.24	ND
Silver	.04	MG/KG	ND	ND	ND	ND	ND	ND	ND
Thallium	.5	MG/KG	0.5	1.6	1.3	1.0	1.1	1.3	1.1
Tin	.3	MG/KG	0.7	0.8	0.7	0.8	0.4	0.4	1.6
Zinc	.25	MG/KG	35.6	37.0	27.7	31.3	26.9	29.2	24.4

Source:			E-14	E-15	E-17	E-19	E-20	E-21	E-23
Date:			2015	2015	2015	2015	2015	2015	2015
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aluminum	2	MG/KG	6360	7480	8800	11700	8990	7850	10700
Antimony	.3	MG/KG	0.6	0.5	0.4	0.8	0.6	0.4	0.8
Arsenic	.33	MG/KG	2.10	2.10	2.46	2.84	2.46	2.14	2.69
Barium	.02	MG/KG	25.5	28.0	36.4	53.6	36.7	30.1	45.8
Beryllium	.01	MG/KG	0.07	0.08	0.08	0.10	0.08	0.08	0.10
Cadmium	.06	MG/KG	0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Chromium	.1	MG/KG	12.8	14.9	16.4	20.2	16.2	14.7	18.8
Copper	.2	MG/KG	5.6	5.6	6.2	8.3	5.7	5.1	6.8
Iron	9	MG/KG	8390	10000	11100	14000	11100	9980	13200
Lead	.8	MG/KG	3.0	3.8	3.8	5.2	3.8	3.8	4.4
Manganese	.08	MG/KG	76	82	100	127	100	86	116
Mercury	.004	MG/KG	0.012	0.017	0.017	0.028	0.020	0.017	0.018
Nickel	.1	MG/KG	5.9	6.3	8.2	10.2	8.1	7.4	9.8
Selenium	.24	MG/KG	ND	<0.24	ND	<0.24	ND	<0.24	ND
Silver	.04	MG/KG	ND	ND	ND	ND	ND	ND	ND
Thallium	.5	MG/KG	1.1	1.7	1.3	1.2	0.9	1.4	1.0
Tin	.3	MG/KG	0.6	0.5	0.6	1.0	0.3	0.3	0.7
Zinc	.25	MG/KG	23.3	25.6	29.0	36.5	27.9	25.0	33.1

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

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

Annual 2015

Source:			E-25	E-26
Date:			2015	2015
Analyte:	MDL	Units	Average	Average
Aluminum	2	MG/KG	10700	11100
Antimony	.3	MG/KG	0.8	0.8
Arsenic	.33	MG/KG	2.38	2.55
Barium	.02	MG/KG	41.0	44.8
Beryllium	.01	MG/KG	0.09	0.09
Cadmium	.06	MG/KG	0.07	<0.06
Chromium	.1	MG/KG	17.9	18.9
Copper	.2	MG/KG	7.6	7.4
Iron	9	MG/KG	12200	13100
Lead	.8	MG/KG	4.0	4.2
Manganese	.08	MG/KG	113	118
Mercury	.004	MG/KG	0.018	0.021
Nickel	.1	MG/KG	9.8	10.3
Selenium	.24	MG/KG	<0.24	<0.24
Silver	.04	MG/KG	ND	ND
Thallium	.5	MG/KG	ND	ND
Tin	.3	MG/KG	1.0	1.1
Zinc	.25	MG/KG	30.6	31.0

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

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

Annual 2015

Source:			A-2	A-5	A-8	A-9	A-15	A-16	B-3	B-5
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average	Average
Aldrin	70	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	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	50	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	190	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	220	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	160	NG/KG	ND	ND	E100	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	350	480	550	390	550	910	390	280
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	70	NG/KG	ND	ND	ND	ND	ND	200	ND	ND
o,p-DDD	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	120	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	160	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	190	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	240	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	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	340	NG/KG	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	220	NG/KG	0	0	0	0	0	0	0	0
DDT and derivatives	260	NG/KG	350	480	550	390	550	1110	390	280
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	350	480	550	390	550	1110	390	280

ND=not detected
NA=not analyzed

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
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2015

Source:			B-8	B-9	B-10	B-11	B-12	E-1	E-2	E-3
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average	Average
Aldrin	70	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	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	50	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	190	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	220	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	160	NG/KG	ND	E50	ND	E34	ND	E65	ND	380
p,p-DDE	260	NG/KG	800	590	565	350	470	490	525	470
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	7500
o,p-DDD	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	120	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	160	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	190	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	240	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	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	340	NG/KG	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	220	NG/KG	0	0	0	0	0	0	0	0
DDT and derivatives	260	NG/KG	800	590	565	350	470	490	525	8350
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	800	590	565	350	470	490	525	8350

ND=not detected
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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
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2015

Source:			E-5	E-7	E-8	E-9	E-11	E-14	E-15	E-17
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average	Average
Aldrin	70	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	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	50	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	190	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	220	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	160	NG/KG	ND	E75	ND	ND	ND	ND	E44	ND
p,p-DDE	260	NG/KG	580	890	640	585	560	470	195	505
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	120	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	160	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	190	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	240	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	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	340	NG/KG	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	220	NG/KG	0	0	0	0	0	0	0	0
DDT and derivatives	260	NG/KG	580	890	640	585	560	470	195	505
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	580	890	640	585	560	470	195	505

ND=not detected
NA=not analyzed

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
SEDIMENT ANNUAL Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2015

Source:			E-19	E-20	E-21	E-23	E-25	E-26
Date:			2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average
Aldrin	70	NG/KG	ND	ND	ND	ND	ND	ND
Dieldrin	340	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	100	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	50	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	190	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	220	NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDD	160	NG/KG	E47	210	ND	ND	ND	ND
p,p-DDE	260	NG/KG	483	405	560	370	560	558
p,p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDT	70	NG/KG	ND	4400	ND	ND	ND	ND
o,p-DDD	100	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDE	60	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDT	110	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor	120	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	300	NG/KG	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	160	NG/KG	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	190	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	240	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	510	NG/KG	ND	ND	ND	ND	ND	ND
Endrin aldehyde	2400	NG/KG	ND	ND	ND	ND	ND	ND
Mirex	60	NG/KG	ND	ND	ND	ND	ND	ND
Methoxychlor	90	NG/KG	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	340	NG/KG	0	0	0	0	0	0
Hexachlorocyclohexanes	220	NG/KG	0	0	0	0	0	0
DDT and derivatives	260	NG/KG	483	5015	560	370	560	558
Chlordane + related cmpds.	1200	NG/KG	0	0	0	0	0	0
Chlorinated Hydrocarbons	2400	NG/KG	483	5015	560	370	560	558

ND=not detected
NA=not analyzed

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
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

Annual 2015

Source:			A-2	A-5	A-8	A-9	A-15	A-16	B-3	B-5
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 28	60	NG/KG	ND	ND	E59	ND	72	68	ND	ND
PCB 52	90	NG/KG	ND	ND	E49	E56	200	E72	ND	ND
PCB 49	70	NG/KG	ND	ND	E55	E52	E65	E64	ND	ND
PCB 44	100	NG/KG	ND	ND	E28	ND	E89	ND	ND	ND
PCB 37	90	NG/KG	ND	ND	ND	ND	E29	ND	ND	ND
PCB 74	100	NG/KG	ND	ND	ND	ND	E61	E41	ND	ND
PCB 70	60	NG/KG	ND	ND	ND	E58	130	E54	ND	ND
PCB 66	100	NG/KG	ND	ND	E70	E78	110	E78	ND	ND
PCB 101	100	NG/KG	ND	ND	180	ND	340	120	ND	ND
PCB 99	120	NG/KG	ND	ND	ND	ND	210	E70	ND	ND
PCB 119	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 110	110	NG/KG	ND	ND	ND	ND	380	ND	ND	ND
PCB 81	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	110	NG/KG	140	ND	210	110	210	110	ND	ND
PCB 123	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	90	NG/KG	130	ND	ND	ND	410	130	ND	ND
PCB 114	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	50	NG/KG	ND	ND	ND	ND	150	ND	ND	ND
PCB 138	80	NG/KG	ND	ND	ND	ND	340	ND	ND	ND
PCB 158	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 183	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 167	30	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	80	NG/KG	110	ND	ND	ND	ND	ND	ND	ND
PCB 170	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB's	200	NG/KG	380	0	390	110	2552	428	0	0

ND=not detected
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 2015

Source:			B-8	B-9	B-10	B-11	B-12	E-1	E-2	E-3
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	<90
PCB 28	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	150
PCB 52	90	NG/KG	ND	ND	ND	ND	ND	<90	<90	210
PCB 49	70	NG/KG	ND	ND	ND	ND	ND	<70	<70	130
PCB 44	100	NG/KG	ND	ND	ND	ND	ND	<100	ND	180
PCB 37	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	<90
PCB 74	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	<100
PCB 70	60	NG/KG	ND	ND	ND	ND	ND	ND	<60	200
PCB 66	100	NG/KG	ND	ND	ND	ND	ND	ND	<100	200
PCB 101	100	NG/KG	ND	ND	ND	ND	ND	<100	ND	220
PCB 99	120	NG/KG	ND	ND	ND	ND	ND	<120	ND	140
PCB 119	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	200	NG/KG	ND	ND	ND	ND	ND	ND	ND	<200
PCB 110	110	NG/KG	ND	ND	ND	ND	ND	ND	150	230
PCB 81	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	110	NG/KG	ND	ND	ND	ND	ND	110	ND	160
PCB 123	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	240
PCB 114	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	50	NG/KG	ND	ND	ND	ND	ND	ND	ND	85
PCB 138	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	230
PCB 158	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	<110
PCB 183	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	80
PCB 167	30	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	<90
PCB 157	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	80	NG/KG	ND	ND	ND	ND	ND	80	ND	120
PCB 170	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB's	200	NG/KG	0	0	0	0	0	110	150	2575

ND=not detected
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 2015

Source:			E-5	E-7	E-8	E-9	E-11	E-14	E-15	E-17
Date:			2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 28	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 52	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 49	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 44	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 37	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	100	NG/KG	<100	ND	ND	ND	ND	ND	ND	ND
PCB 70	60	NG/KG	85	ND	ND	ND	ND	ND	ND	120
PCB 66	100	NG/KG	E110	ND	ND	ND	ND	ND	ND	ND
PCB 101	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	220
PCB 99	120	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 119	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	200	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 110	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	290
PCB 81	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	110	NG/KG	ND	<110	ND	ND	ND	ND	ND	210
PCB 123	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	260
PCB 114	130	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	50	NG/KG	ND	ND	ND	ND	ND	ND	ND	230
PCB 138	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	450
PCB 158	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	110	NG/KG	ND	ND	ND	ND	ND	ND	ND	<110
PCB 183	60	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 167	30	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	70	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	90	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	100	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 170	80	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB's	200	NG/KG	0	0	0	0	0	0	0	1780

ND=not detected
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 2015

Source:			E-19	E-20	E-21	E-23	E-25	E-26
Date:			2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	90	NG/KG	ND	ND	ND	ND	ND	ND
PCB 28	60	NG/KG	ND	ND	ND	ND	ND	ND
PCB 52	90	NG/KG	ND	ND	ND	ND	ND	ND
PCB 49	70	NG/KG	ND	ND	ND	ND	ND	ND
PCB 44	100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 37	90	NG/KG	ND	ND	ND	ND	ND	ND
PCB 74	100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 70	60	NG/KG	ND	ND	ND	ND	ND	ND
PCB 66	100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 101	100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 99	120	NG/KG	ND	ND	ND	ND	ND	ND
PCB 119	80	NG/KG	ND	ND	ND	ND	ND	ND
PCB 87	200	NG/KG	ND	ND	ND	ND	ND	ND
PCB 110	110	NG/KG	ND	ND	ND	ND	ND	ND
PCB 81	130	NG/KG	ND	ND	ND	ND	ND	ND
PCB 151	80	NG/KG	ND	ND	ND	ND	ND	ND
PCB 77	110	NG/KG	ND	ND	ND	ND	ND	ND
PCB 149	110	NG/KG	ND	ND	ND	ND	ND	ND
PCB 123	130	NG/KG	ND	ND	ND	ND	ND	ND
PCB 118	90	NG/KG	ND	ND	ND	ND	ND	ND
PCB 114	130	NG/KG	ND	ND	ND	ND	ND	ND
PCB 105	50	NG/KG	ND	ND	ND	ND	ND	ND
PCB 138	80	NG/KG	ND	ND	ND	ND	ND	ND
PCB 158	70	NG/KG	ND	ND	ND	ND	ND	ND
PCB 187	110	NG/KG	ND	ND	ND	ND	ND	ND
PCB 183	60	NG/KG	ND	ND	ND	ND	ND	ND
PCB 126	70	NG/KG	ND	ND	ND	ND	ND	ND
PCB 128	80	NG/KG	ND	ND	ND	ND	ND	ND
PCB 167	30	NG/KG	ND	ND	ND	ND	ND	ND
PCB 177	70	NG/KG	ND	ND	ND	ND	ND	ND
PCB 201	70	NG/KG	ND	ND	ND	ND	ND	ND
PCB 156	90	NG/KG	ND	ND	ND	ND	ND	ND
PCB 157	100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 180	80	NG/KG	ND	ND	ND	ND	ND	ND
PCB 170	80	NG/KG	ND	ND	ND	ND	ND	ND
Total PCB's	200	NG/KG	0	0	0	0	0	0

ND=not detected
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 Base/Neutrals - Standard Stations

Annual 2015

Source			B-8	B-9	B-10	B-11	B-12	E-1	E-2	E-3	E-5	E-7	E-8	E-9	E-11
			2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	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	<30	ND	<30	ND	ND	ND	ND	ND
Anthracene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	<20	ND	ND	ND	ND	ND
Benzo[a]anthracene	20	UG/KG	ND	ND	ND	ND	ND	<20	<20	25	ND	ND	ND	ND	ND
Benzo[a]pyrene	20	UG/KG	ND	ND	ND	ND	ND	E23	<20	41	ND	ND	ND	<20	ND
3,4-Benzo(b)fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	E27	<20	51	ND	ND	ND	<20	ND
Benzo[e]pyrene	20	UG/KG	ND	ND	ND	ND	ND	<20	<20	E27	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	20	UG/KG	<20	ND	ND	ND	ND	<20	<20	32	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	<20	<20	<20	ND	ND	ND	ND	ND
Biphenyl	30	UG/KG	<30	ND	ND	ND	ND	<30	<30	<30	ND	ND	ND	ND	ND
Chrysene	40	UG/KG	ND	ND	ND	ND	ND	<40	<40	<40	ND	ND	ND	<40	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	ND	<20	<20	<20	ND	<20	<20	<20	ND	<20	<20	ND	<20
Fluoranthene	20	UG/KG	<20	ND	ND	ND	ND	<20	<20	E38	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	<20	E26	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	<30	ND	ND	ND	ND	ND
Phenanthrene	30	UG/KG	ND	ND	ND	ND	ND	ND	ND	<30	ND	ND	ND	ND	ND
Pyrene	20	UG/KG	<20	ND	ND	ND	ND	<20	<20	42	ND	ND	ND	<20	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	179	0	0	0	0	0

Source			E-14	E-15	E-17	E-19	E-20	E-21	E-23	E-25	E-26
			2015	2015	2015	2015	2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	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	<20	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	<30	ND	<30	E30	<30	<30	<30	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	<20	<20	<20	E20	<20	<20	<20	<20
Fluoranthene	20	UG/KG	ND	ND	ND	<20	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	<20	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

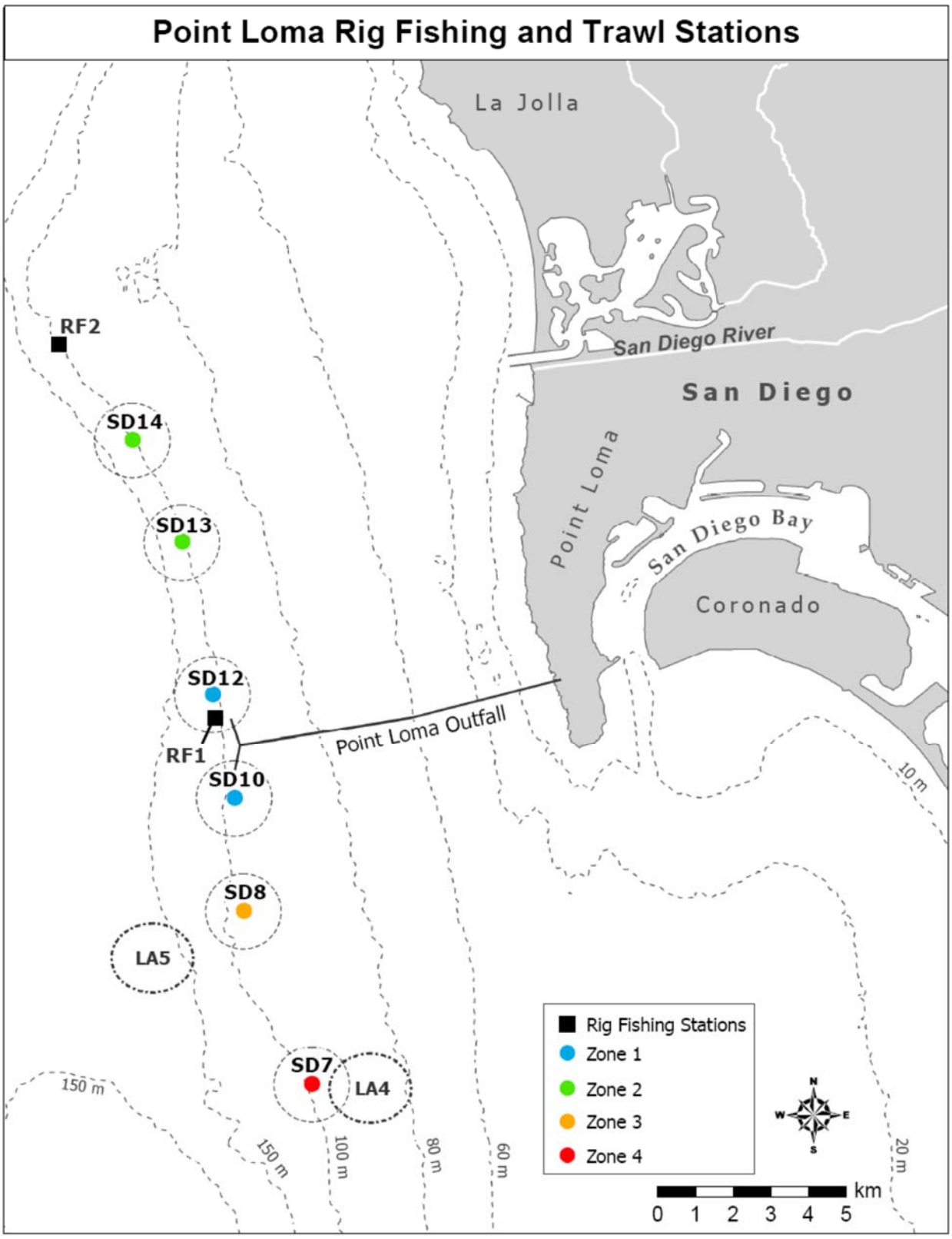
B. Fish Tissue Data.

Fish were taken from the stations shown in the below tables during 2015. 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

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

FISH - Lipids & Total Solids

Annual 2015

Source:				RF-1	RF-2	TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date:				2015	2015	2015	2015	2015	2015
Tissue	Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg	Avg
Liver	Lipids	.09	WT%	NR	NR	38.1	34.9	56.0	48.7
Liver	Total Solids	.4	WT%	NR	NR	51.6	52.8	58.2	61.6
Muscle	Lipids	.09	WT%	0.6	0.5				
Muscle	Total Solids	.4	WT%	23.6	20.8				

ND= not detected
NR= not required

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH TISSUE - LIVER
Trace Metals

Annual 2015

Source:			TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date:			2015	2015	2015	2015
Analyte:	MDL	Units	Average	Average	Average	Average
Aluminum	1.2	MG/KG	<1.20	ND	5.00	2.67
Antimony	.1	MG/KG	0.10	ND	ND	ND
Arsenic	.12	MG/KG	9.00	6.17	4.60	5.70
Beryllium	.002	MG/KG	<0.002	0.01	ND	0.01
Cadmium	.01	MG/KG	3.52	1.31	3.52	7.43
Chromium	.07	MG/KG	0.23	<0.07	0.17	0.10
Copper	.043	MG/KG	4.27	1.97	2.87	5.07
Iron	.7	MG/KG	118	102	87	86
Lead	.07	MG/KG	0.20	0.23	ND	ND
Manganese	.02	MG/KG	0.67	0.77	0.60	0.60
Mercury	.002	MG/KG	0.091	0.047	0.083	0.072
Nickel	.06	MG/KG	ND	ND	ND	ND
Selenium	.06	MG/KG	1.85	1.77	1.14	0.95
Silver	.03	MG/KG	<0.03	<0.03	ND	ND
Thallium	.1	MG/KG	0.60	0.50	0.53	0.60
Tin	.05	MG/KG	1.03	0.77	0.77	0.90
Zinc	.1	MG/KG	54.1	32.9	24.7	33.5
Total Solids	.4	WT%	51.6	52.8	58.2	61.6

Source:			RF-1	RF-2
Date:			2015	2015
Analyte:	MDL	Units	Average	Average
Aluminum	1.2	MG/KG	<1.20	ND
Antimony	.1	MG/KG	ND	ND
Arsenic	.12	MG/KG	7.20	2.43
Beryllium	.002	MG/KG	ND	ND
Cadmium	.01	MG/KG	ND	ND
Chromium	.07	MG/KG	0.17	0.13
Copper	.043	MG/KG	0.08	ND
Iron	.7	MG/KG	ND	2.00
Lead	.07	MG/KG	ND	ND
Manganese	.02	MG/KG	ND	ND
Mercury	.002	MG/KG	0.104	0.079
Nickel	.06	MG/KG	ND	ND
Selenium	.06	MG/KG	0.462	0.408
Silver	.03	MG/KG	ND	ND
Thallium	.1	MG/KG	ND	ND
Tin	.05	MG/KG	0.53	0.50
Zinc	.1	MG/KG	5.40	4.40
Total Solids	.4	WT%	23.6	20.8

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

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH LIVER - Chlorinated Pesticides

Annual 2015

Source:			RF-1	RF-2	RF-3	RF-4	TFZONE1
Date:			2015	2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg	Avg
Hexachlorobenzene	2.35	UG/KG	E0.5	<0.4	<0.4	<0.4	6.0
BHC, Gamma isomer	13	UG/KG	ND	ND	ND	ND	ND
Heptachlor	1.23	UG/KG	ND	ND	ND	ND	ND
Aldrin		UG/KG	ND*	ND*	ND*	ND*	ND*
Heptachlor epoxide	4.11	UG/KG	ND	ND	ND	ND	ND
o,p-DDE	1.58	UG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan		UG/KG	ND*	ND*	ND*	ND*	ND*
Alpha (cis) Chlordane	1.79	UG/KG	ND	ND	ND	ND	<1.8
Trans Nonachlor	2.24	UG/KG	ND	ND	ND	ND	E3.4
p,p-DDE	2.07	UG/KG	4.0	1.3	1.4	1.7	218
p,p-DDMU	.87	UG/KG	ND	ND	ND	ND	17.6
Dieldrin		UG/KG	ND*	ND*	ND*	ND*	ND*
o,p-DDD	1.04	UG/KG	ND	ND	ND	ND	ND
Endrin		UG/KG	ND*	ND*	ND*	ND*	ND*
o,p-DDT	2.37	UG/KG	ND	ND	ND	ND	ND
p,p-DDD	2.1	UG/KG	<0.4	ND	ND	ND	3.6
Beta Endosulfan		UG/KG	ND*	ND*	ND*	ND*	ND*
p,p-DDT	1.48	UG/KG	ND	ND	ND	ND	<1.5
Mirex	1.79	UG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	28.5	UG/KG	ND	ND	ND	ND	ND

Source:			TFZONE2	TFZONE3	TFZONE4
Date:			2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg
Hexachlorobenzene	2.35	UG/KG	4.7	9.7	25.7
BHC, Gamma isomer	13	UG/KG	ND	ND	ND
Heptachlor	1.23	UG/KG	ND	ND	ND
Aldrin		UG/KG	ND*	ND*	ND*
Heptachlor epoxide	4.11	UG/KG	ND	ND	ND
o,p-DDE	1.58	UG/KG	3.7	2.6	<1.6
Alpha Endosulfan		UG/KG	ND*	ND*	ND*
Alpha (cis) Chlordane	1.79	UG/KG	2.0	2.9	2.9
Trans Nonachlor	2.24	UG/KG	3.4	6.7	3.8
p,p-DDE	2.07	UG/KG	214	445	347
p,p-DDMU	.87	UG/KG	20.0	30.7	29.7
Dieldrin		UG/KG	ND*	ND*	ND*
o,p-DDD	1.04	UG/KG	ND	ND	ND
Endrin		UG/KG	ND*	ND*	ND*
o,p-DDT	2.37	UG/KG	ND	ND	ND
p,p-DDD	2.1	UG/KG	2.7	4.0	3.3
Beta Endosulfan		UG/KG	ND*	ND*	ND*
p,p-DDT	1.48	UG/KG	3.3	1.8	2.0
Mirex	1.79	UG/KG	ND	ND	ND
Endosulfan Sulfate	28.5	UG/KG	ND	ND	ND

*= Alumina clean up procedure failed, this result is not reportable.

ND= not detected
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 - Chlorinated Pesticides

Annual 2015

Source:			RF-1	RF-2	RF-3	RF-4
Date:			2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg
Hexachlorobenzene	.42	UG/KG	E0.5	<0.42	<0.42	<0.42
BHC, Gamma isomer	.78	UG/KG	ND	ND	ND	ND
Heptachlor	.25	UG/KG	ND	ND	ND	ND
Aldrin		UG/KG	ND*	ND*	ND*	ND*
Heptachlor epoxide	.28	UG/KG	ND	ND	ND	ND
o,p-DDE	.21	UG/KG	ND	ND	ND	ND
Alpha Endosulfan		UG/KG	ND*	ND*	ND*	ND*
Alpha (cis) Chlordane	.21	UG/KG	ND	ND	ND	ND
Trans Nonachlor	.2	UG/KG	ND	ND	ND	ND
p,p-DDE	.29	UG/KG	4.03	1.27	1.37	1.67
p,p-DDMU	.25	UG/KG	ND	ND	ND	ND
Dieldrin		UG/KG	ND*	ND*	ND*	ND*
o,p-DDD	.23	UG/KG	ND	ND	ND	ND
Endrin		UG/KG	ND*	ND*	ND*	ND*
o,p-DDT	.23	UG/KG	ND	ND	ND	ND
p,p-DDD	.35	UG/KG	<0.35	ND	ND	ND
Beta Endosulfan		UG/KG	ND*	ND*	ND*	ND*
p,p-DDT	.33	UG/KG	ND	ND	ND	ND
Mirex	.32	UG/KG	ND	ND	ND	ND
Endosulfan Sulfate	2.84	UG/KG	ND	ND	ND	ND

*= Alumina clean up procedure failed, this result is not reportable.

ND= not detected

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 2015

Source:			TFZONE1	TFZONE2	TFZONE3	TFZONE4
Date:			2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg
PCB 18	.89	UG/KG	ND	ND	ND	ND
PCB 28	1.12	UG/KG	<1.12	<1.12	ND	ND
PCB 49	.45	UG/KG	2.53	1.93	5.85	2.37
PCB 37	.29	UG/KG	ND	ND	ND	ND
PCB 70	.76	UG/KG	2.3	1.8	5.2	2.7
PCB 101	2.31	UG/KG	9.27	6.5	19.8	9.77
PCB 119	1.04	UG/KG	ND	ND	1.27	ND
PCB 87	1.02	UG/KG	1.23	<1.02	4.15	1.53
PCB 110	2.18	UG/KG	7.67	4.93	22.2	7.37
PCB 151	2.33	UG/KG	3.28	E2.63	8.87	4.07
PCB 77	1.2	UG/KG	ND	ND	ND	ND
PCB 149	1.6	UG/KG	8.07	5.77	13.8	6.0
PCB 123	1.49	UG/KG	<1.5	E1.6	4.4	1.7
PCB 118	2.29	UG/KG	16.5	11.1	43.3	19.0
PCB 114	2.1	UG/KG	ND	ND	ND	ND
PCB 153/168	3.49	UG/KG	33.3	27.3	93.0	43.0
PCB 105	2.63	UG/KG	4.45	E3.37	11.9	5.43
PCB 138	2.18	UG/KG	21.2	17.0	61.7	23.0
PCB 158	1.24	UG/KG	2.03	<1.24	4.57	2.37
PCB 187	1.25	UG/KG	12.2	12.0	32.3	15.2
PCB 183	1.56	UG/KG	3.78	3.37	8.17	4.77
PCB 126	1.48	UG/KG	ND	ND	ND	ND
PCB 128	1.81	UG/KG	ND	ND	8.03	ND
PCB 167	.74	UG/KG	1.25	<0.74	3.48	1.73
PCB 177	1.75	UG/KG	E2.60	2.87	5.85	2.67
PCB 156	1.24	UG/KG	<1.24	ND	4.62	<1.24
PCB 157	1	UG/KG	ND	ND	<1.0	ND
PCB 180	2.49	UG/KG	14.5	13.0	35.0	17.9
PCB 170	2.12	UG/KG	4.82	3.23	11.8	5.3
PCB 169	1.15	UG/KG	ND	ND	ND	ND
PCB 189	2.04	UG/KG	ND	ND	ND	ND
PCB 194	11.4	UG/KG	ND	<11.4	<11.4	<11.4
PCB 206	.67	UG/KG	3.98	4.2	5.17	4.4

ND= not detected

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 2015

Source:			RF-1	RF-2	RF-3	RF-4
Date:			2015	2015	2015	2015
Analyte	MDL	Units	Avg	Avg	Avg	Avg
PCB 18	.22	UG/KG	ND	ND	ND	ND
PCB 28	.18	UG/KG	ND	ND	ND	ND
PCB 49	.16	UG/KG	<0.16	ND	ND	ND
PCB 37	.15	UG/KG	ND	ND	ND	ND
PCB 70	.19	UG/KG	ND	ND	ND	ND
PCB 101	.25	UG/KG	<0.25	ND	ND	ND
PCB 119	.05	UG/KG	ND	ND	ND	ND
PCB 87	.23	UG/KG	ND	ND	ND	ND
PCB 110	.38	UG/KG	ND	ND	ND	ND
PCB 151	.12	UG/KG	ND	ND	ND	ND
PCB 77	.31	UG/KG	ND	ND	ND	ND
PCB 149	.3	UG/KG	<0.3	ND	ND	ND
PCB 123	.25	UG/KG	ND	ND	ND	ND
PCB 118	.31	UG/KG	<0.31	ND	ND	ND
PCB 114	.21	UG/KG	ND	ND	ND	ND
PCB 153/168	.56	UG/KG	<0.56	<0.56	<0.56	<0.56
PCB 105	.19	UG/KG	ND	ND	ND	ND
PCB 138	.3	UG/KG	ND	ND	ND	ND
PCB 158	.13	UG/KG	ND	ND	ND	ND
PCB 187	.47	UG/KG	<0.47	ND	ND	ND
PCB 183	.46	UG/KG	ND	ND	ND	ND
PCB 126	.36	UG/KG	ND	ND	ND	ND
PCB 128	.29	UG/KG	ND	ND	ND	ND
PCB 167	.17	UG/KG	ND	ND	ND	ND
PCB 177	.49	UG/KG	ND	ND	ND	ND
PCB 156	.23	UG/KG	ND	ND	ND	ND
PCB 157	.14	UG/KG	ND	ND	ND	ND
PCB 180	.42	UG/KG	<0.42	ND	<0.42	ND
PCB 170	.41	UG/KG	ND	ND	ND	ND
PCB 169	.23	UG/KG	ND	ND	ND	ND
PCB 189	.36	UG/KG	ND	ND	ND	ND
PCB 194	.61	UG/KG	ND	ND	ND	ND
PCB 206	.14	UG/KG	ND	ND	ND	ND

ND= not detected
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

2015 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 2015. Sampling occurred on February 03, May 05, August 04, and October 06. 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 2015

Point Loma

Source			PLR	PLR	PLR	PLR
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Conductivity	10	umhos/cm	3010	3270	2990	3090
HEM (Grease & Oil)	1.2	mg/L	55.1	51.7	58.7	41.7
Total Suspended Solids	2.5	mg/L	402	362	380	331
Volatile Suspended Solids	2.5	mg/L	349	323	278	283
Total Alkalinity (bicarbonate)	20	mg/L	320	342	315	308
Total Solids	10	mg/L	2130	2280	2120	2120
Total Volatile Solids	100	mg/L	576	621	592	469
Total Kjeldahl Nitrogen	1.6	mg/L	62	41	50	NR
BOD (Biochemical Oxygen Demand)	2	mg/L	282	356	310	313
Chemical Oxygen Demand	18	mg/L	678	749	680	605
pH (grab)		pH Units	NR	7.39	7.23	7.43
Ammonia-N	.3	mg/L	38.6	39.9	36.3	32.5
Turbidity	.13	NTU	165.0	175.0	164.0	126.0
Total Dissolved Solids	28	mg/L	1690	1840	1730	1930
MBAS (Surfactants)	.03	mg/L	6.09	5.36	5.64	7.08

Source			PLR	PLE	PLE	PLE
Analyte	MDL	Units	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015
Conductivity	10	umhos/cm	NR	3020	3190	3030
HEM (Grease & Oil)	1.2	mg/L	NR	7.6	11.9	11.3
Total Suspended Solids	2.5	mg/L	NR	29	22	38
Volatile Suspended Solids	2.5	mg/L	NR	23	19	32
Total Alkalinity (bicarbonate)	20	mg/L	NR	312	322	303
Total Solids	10	mg/L	NR	1780	1870	1790
Total Volatile Solids	100	mg/L	NR	286	302	317
Total Kjeldahl Nitrogen	1.6	mg/L	59	49	42	43
BOD (Biochemical Oxygen Demand)	2	mg/L	NR	104	109	106
Chemical Oxygen Demand	18	mg/L	NR	236	264	240
pH (grab)		pH Units	NR	NR	7.33	7.27
Ammonia-N	.3	mg/L	NR	39.3	38.5	35.5
Turbidity	.13	NTU	NR	33.6	42.6	36.4
Total Dissolved Solids	28	mg/L	NR	1650	1830	1700
MBAS (Surfactants)	.03	mg/L	NR	3.82	3.79	3.84

POINT LOMA WASTEWATER TREATMENT PLANT
Physical/Aggregate Properties Report

Source			Point Loma	
			PLE	PLE
Analyte	MDL	Units	06-OCT-2015	08-OCT-2015
Conductivity	10	umhos/cm	3020	NR
HEM (Grease & Oil)	1.2	mg/L	10.0	NR
Total Suspended Solids	2.5	mg/L	26	NR
Volatile Suspended Solids	2.5	mg/L	21	NR
Total Alkalinity (bicarbonate)	20	mg/L	292	NR
Total Solids	10	mg/L	1780	NR
Total Volatile Solids	100	mg/L	202	NR
Total Kjeldahl Nitrogen	1.6	mg/L	NR	43
BOD (Biochemical Oxygen Demand)	2	mg/L	101	NR
Chemical Oxygen Demand	18	mg/L	204	255
pH (grab)		pH Units	7.32	NR
Ammonia-N	.3	mg/L	33.5	NR
Total Organic Carbon		mg/L	NR	NR
Turbidity	.13	NTU	32.5	NR
Total Dissolved Solids	28	mg/L	1910	NR
MBAS (Surfactants)	.03	mg/L	2.71	NR

Source			RAW COMP	RAW COMP	RAW COMP	RAW COMP
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Total Alkalinity (bicarbonate)	20	mg/L	499	438	424	498
Volatile Organic Acids	5	mg/L	NR	915	NR	982
Total Solids		Wt%	4.15	4.30	4.30	4.70
Total Volatile Solids		Wt%	79	79	78	77
Total Kjeldahl Nitrogen	.04	Wt%	3.6	3.4	4.3	3.4
pH (grab)		pH Units	5.86	5.67	5.45	5.40

Source			DIG COMP	DIG COMP	DIG COMP	DIG COMP
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Total Alkalinity (bicarbonate)	20	mg/L	2330	2090	1950	1690
Volatile Organic Acids	5	mg/L	NR	79	88	69
Total Solids		Wt%	2.15	2.35	2.20	2.45
Total Volatile Solids		Wt%	59	61	58	59
Total Kjeldahl Nitrogen	.04	Wt%	6.9	6.7	7.3	6.3
pH (grab)		pH Units	7.36	7.27	7.15	7.35

POINT LOMA WASTEWATER TREATMENT PLANT
Physical/Aggregate Properties Report

Annual 2015

MBC

Source			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Conductivity	10	umhos/cm	5410	5390	4370	5340
HEM (Grease & Oil)	1.2	mg/L	5.3	36.1	11.5	29.4
Total Suspended Solids	2.5	mg/L	610	960	725	1080
Volatile Suspended Solids	2.5	mg/L	455	720	530	840
Total Alkalinity (bicarbonate)	20	mg/L	1320	1200	920	1000
Total Solids		Wt%	0.40	0.40	0.40	0.50
Total Volatile Solids		Wt%	45	47	50	58
Total Kjeldahl Nitrogen	1.6	mg/L	435	375	239	308
BOD (Biochemical Oxygen Demand)	2	mg/L	254	650	283	525
Chemical Oxygen Demand	18	mg/L	1290	893	1170	432
pH		pH Units	7.89	7.78	7.78	7.72
pH (grab sample)		pH Units	7.78	7.59	7.75	7.67
Ammonia-N	.3	mg/L	312.0	63.9	NR	270.0

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Analyte	MDL	Units	28-FEB-2015	31-MAY-2015	31-AUG-2015	31-OCT-2015
Total Solids		Wt%	27.10	27.00	26.80	26.10
Total Volatile Solids		Wt%	61	62	61	62
Total Kjeldahl Nitrogen	.04	Wt%	5.1	5.0	4.9	4.7
pH		pH Units	7.89	7.81	7.74	7.68

Source			MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Total Alkalinity (bicarbonate)	20	mg/L	2560	2180	1890	1630
Total Solids		Wt%	3.00	3.10	2.80	2.80
Total Volatile Solids		Wt%	67	66	66	66
Total Kjeldahl Nitrogen	1.6	mg/L	2340	2430	1780	1850
pH		pH Units	7.18	7.12	7.12	6.92

Source			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL
Analyte	MDL	Units	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Total Suspended Solids	2.5	mg/L	7950	5600	3200	6800
Volatile Suspended Solids	2.5	mg/L	6500	4600	2600	5700
Total Alkalinity (bicarbonate)	20	mg/L	383	364	378	380
Total Solids		Wt%	0.70	0.60	0.40	0.70
Total Volatile Solids		Wt%	72	68	62	69
Total Kjeldahl Nitrogen	1.6	mg/L	215	168	130	319
pH		pH Units	7.16	7.26	7.10	6.89

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			PLE	PLE	PLE	PLE
Date:			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Sample ID:	MDL	Units	P755927	P778631	P795056	P807257
Aluminum	23.8	UG/L	ND	34.5	ND	NR
Antimony	2.44	UG/L	ND	ND	ND	NR
Arsenic	.06	UG/L	0.7	1.0	1.1	NR
Barium	.7	UG/L	50	49	49	NR
Beryllium	.05	UG/L	ND	ND	ND	NR
Boron	1.4	UG/L	379	432	371	NR
Cadmium	.26	UG/L	<0.3	ND	ND	NR
Chromium	.54	UG/L	1.2	1.4	ND	NR
Cobalt	.24	UG/L	0.7	0.9	ND	NR
Copper	2.16	UG/L	11	5	16	NR
Iron	15.6	UG/L	2560	1980	2430	NR
Lead	1.68	UG/L	<1.68	ND	ND	NR
Manganese	.78	UG/L	123	118	138	NR
Mercury	.5	NG/L	7.1	6.8	9.0	NR
Molybdenum	.32	UG/L	7.5	5.6	6.2	NR
Nickel	.53	UG/L	3.65	4.08	14.00	NR
Selenium	.08	UG/L	1.20	1.14	1.25	NR
Silver	.73	UG/L	ND	ND	ND	NR
Thallium	3.12	UG/L	ND	ND	ND	NR
VaNRdium	.45	UG/L	0.77	4.11	ND	NR
Zinc	4.19	UG/L	17	14	23	NR
Calcium	.04	MG/L	92.0	101.0	87.4	98.8
Lithium	.002	MG/L	0.06	0.06	0.06	0.06
Magnesium	.1	MG/L	54	56	52	61
Potassium	.3	MG/L	29	35	29	27
Sodium	1	MG/L	366	429	366	411
Bromide	.1	MG/L	1.3	1.4	1.3	1.3
Chloride	7	MG/L	594	634	587	621
Fluoride	.05	MG/L	0.85	0.91	0.49	0.45
Nitrate	.04	MG/L	0.27	ND	1.08	0.81
Ortho Phosphate (as PO4)	.2	MG/L	3.1	6.0	5.1	5.3
Sulfate	9	MG/L	286	273	249	281
Calcium Hardness	.1	MG/L	230	253	218	247
Magnesium Hardness	.412	MG/L	221	231	216	249
Total Hardness	.512	MG/L	451	484	434	496
Cyanide, Total	.002	MG/L	0.003	<0.002	<0.002	NR
Sulfides-Total	.4	MG/L	0.8	0.7	0.8	0.7
Total Kjeldahl Nitrogen	1.6	MG/L	49.4	42.4	42.8	NR

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

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			PLE	PLR	PLR	PLR
Date:			08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015
Sample ID:	MDL	Units	P812596	P755933	P778637	P795062
Aluminum	23.8	UG/L	120	674	336	803
Antimony	2.44	UG/L	4.00	2.61	ND	ND
Arsenic	.06	UG/L	1.2	0.9	0.7	1.3
Barium	.7	UG/L	65	125	97	128
Beryllium	.05	UG/L	ND	ND	ND	ND
Boron	1.4	UG/L	423	380	427	394
Cadmium	.26	UG/L	ND	0.3	0.3	ND
Chromium	.54	UG/L	2.2	5.4	2.6	10.0
Cobalt	.24	UG/L	0.9	1.1	1.2	1.2
Copper	2.16	UG/L	28	117	ND	169
Iron	15.6	UG/L	3540	8810	6580	9300
Lead	1.68	UG/L	ND	3.38	ND	ND
Manganese	.78	UG/L	138	136	121	159
Mercury	.5	NG/L	8.0	121.0	173.0	164.0
Molybdenum	.32	UG/L	6.2	9.7	2.5	11.0
Nickel	.53	UG/L	10.40	6.71	6.00	15.00
Selenium	.08	UG/L	1.40	1.28	1.33	1.78
Silver	.73	UG/L	ND	1.5	ND	ND
Thallium	3.12	UG/L	ND	ND	ND	ND
Vanadium	.45	UG/L	1.90	4.73	8.98	7.00
Zinc	4.19	UG/L	35	168	116	193
Calcium	.04	MG/L	NR	92.4	96.7	92.4
Lithium	.002	MG/L	NR	0.06	0.06	0.06
Magnesium	.1	MG/L	NR	54	55	55
Potassium	.3	MG/L	NR	29	35	30
Sodium	1	MG/L	NR	363	414	381
Bromide	.1	MG/L	NR	1.3	1.4	1.3
Chloride	7	MG/L	NR	598	626	598
Fluoride	.05	MG/L	NR	0.92	0.68	0.58
Nitrate	.04	MG/L	NR	0.08	ND	0.19
Ortho Phosphate (as PO4)	.2	MG/L	NR	4.3	6.4	6.9
Sulfate	9	MG/L	NR	298	283	267
Calcium Hardness	.1	MG/L	NR	231	241	231
Magnesium Hardness	.412	MG/L	NR	221	228	228
Total Hardness	.512	MG/L	NA	452	469	459
Cyanide, Total	.002	MG/L	ND	0.002	ND	ND
Sulfides-Total	.4	MG/L	NR	2.8	3.2	3.4
Total Kjeldahl Nitrogen	1.6	MG/L	43.3	62.2	41.4	50.2

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

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			PLR	PLR
Date:			06-OCT-2015	08-OCT-2015
Sample ID:	MDL	Units	P807263	P812595
Aluminum	23.8	UG/L	NR	678
Antimony	2.44	UG/L	NA	3.00
Arsenic	.06	UG/L	NR	1.3
Barium	.7	UG/L	NR	131
Beryllium	.05	UG/L	NR	ND
Boron	1.4	UG/L	NR	406
Cadmium	.26	UG/L	NR	ND
Chromium	.54	UG/L	NR	6.1
Cobalt	.24	UG/L	NR	1.2
Copper	2.16	UG/L	NR	111
Iron	15.6	UG/L	NR	10000
Lead	1.68	UG/L	NR	4.00
Manganese	.78	UG/L	NR	128
Mercury	.5	NG/L	NR	79.0
Molybdenum	.32	UG/L	NR	9.9
Nickel	.53	UG/L	NR	12.20
Selenium	.08	UG/L	NR	1.82
Silver	.73	UG/L	NR	0.8
Thallium	3.12	UG/L	NR	ND
Vanadium	.45	UG/L	NR	6.40
Zinc	4.19	UG/L	NR	172
Calcium	.04	MG/L	97.5	NR
Lithium	.002	MG/L	0.05	NR
Magnesium	.1	MG/L	60	NR
Potassium	.3	MG/L	27	NR
Sodium	1	MG/L	414	NR
Bromide	.1	MG/L	1.4	NR
Chloride	7	MG/L	624	NR
Fluoride	.05	MG/L	0.47	NR
Nitrate	.04	MG/L	ND	NR
Ortho Phosphate (as PO4)	.2	MG/L	4.7	NR
Sulfate	9	MG/L	293	NR
Calcium Hardness	.1	MG/L	243	NR
Magnesium Hardness	.412	MG/L	248	NR
Total Hardness	.512	MG/L	491	NR
Cyanide, Total	.002	MG/L	NR	ND
Sulfides-Total	.4	MG/L	2.5	NR
Total Kjeldahl Nitrogen	1.6	MG/L	NR	59.1

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

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date:			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Sample ID:	MDL	Units	P755944	P778648	P795073	P807274
Aluminum	59.5	UG/L	935	693	1840	8630
Antimony	6.1	UG/L	3.82	ND	ND	17.0
Arsenic	.18	UG/L	1.9	1.7	2.7	8.8
Barium	1.75	UG/L	293	219	257	1000
Beryllium	.125	UG/L	ND	ND	ND	ND
Boron	3.5	UG/L	357	389	358	410
Cadmium	.65	UG/L	0.4	ND	ND	1.3
Chromium	1.35	UG/L	9.8	6.1	17.0	57.8
Cobalt	.6	UG/L	4.8	4.9	5.1	11.7
Copper	5.4	UG/L	150	16	319	1350
Iron	38.5	UG/L	37000	30500	38400	171000
Lead	4.2	UG/L	6.53	ND	6.00	23.00
Manganese	1.95	UG/L	390	383	499	1040
Mercury	.013	NG/L	148.0	125.0	159.0	127.0
Molybdenum	.8	UG/L	7.0	1.6	10.9	37.8
Nickel	1.32	UG/L	17.00	22.70	23.00	65.40
Selenium	.24	UG/L	ND	0.78	2.58	5.62
Silver	1.82	UG/L	0.8	2.3	ND	5.8
Thallium	7.8	UG/L	3.3	ND	ND	ND
Vanadium	1.12	UG/L	4.64	11.20	20.00	62.00
Zinc	4.19	UG/L	225	208	336	1440
Calcium	.04	MG/L	212	208	156	223
Lithium	.002	MG/L	0.06	0.06	0.06	0.05
Magnesium	.1	MG/L	65	61	54	73
Potassium	.3	MG/L	49	49	39	44
Sodium	1	MG/L	301	313	275	332
Bromide	.1	MG/L	0.8	0.3	0.6	0.7
Chloride	7	MG/L	1010	1060	775	1120
Fluoride	.05	MG/L	0.51	ND	0.33	ND
Nitrate	.04	MG/L	0.60	0.18	0.42	ND
Ortho Phosphate (as PO4)	.2	MG/L	2.9	5.3	11.2	5.0
Sulfate	9	MG/L	51	38	48	37
Calcium Hardness	.1	MG/L	530	518	390	556
Magnesium Hardness	.412	MG/L	267	252	222	300
Total Hardness	.512	MG/L	797	770	612	856
Cyanide, Total	.002	MG/L	0.003	0.005	0.003	ND
Sulfides-Total	.4	MG/L	5.4	7.3	10.5	41.7
Total Kjeldahl Nitrogen	1.6	MG/L	435	375	239	308

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

MBC_COMBCN = Combined Sludge Centrate

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL
Date:			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Sample ID:	MDL	Units	P755998	P778702	P795127	P807328
Aluminum	1190	UG/L	118000	139000	14900	90000
Antimony	122	UG/L	161	236	2110	166
Arsenic	3	UG/L	150.0	153.0	127.0	61.1
Barium	35	UG/L	12200	12800	2290	10400
Beryllium	10	UG/L	ND	ND	2080.00	ND
Boron	70	UG/L	1030	1360	2310	1040
Cadmium	13	UG/L	14.2	14.5	2040.0	11.5
Chromium	27	UG/L	1190	1290	2040	939
Cobalt	12	UG/L	89	138	2100	108
Copper	108	UG/L	16000	17500	2670	16200
Iron	780	UG/L	2580000	2710000	69600	2030000
Lead	84	UG/L	301	308	2040	365
Manganese	39	UG/L	9840	9780	2570	6870
Mercury	2	UG/L	18.8	25.8	16.7	73.6
Molybdenum	16	UG/L	453	545	2060	552
Nickel	26.5	UG/L	778	903	2050	845
Selenium	2	UG/L	150.0	171.0	10.9	6.0
Silver	36.5	UG/L	94	113	516	272
Thallium	156	UG/L	15.8	ND	2100.0	5.0
Vanadium	22.5	UG/L	495	1040	2070	883
Zinc	210	UG/L	18000	20500	2850	15600
Calcium	.04	MG/L	192	154	139	249
Lithium	.002	MG/L	0.07	0.06	0.06	0.06
Magnesium	.1	MG/L	66	62	63	77
Potassium	.3	MG/L	61	64	58	60
Sodium	1	MG/L	210	211	208	244
Bromide	.1	MG/L	0.5	0.4	0.4	0.5
Chloride	7	MG/L	1260	1390	1090	1180
Fluoride	.05	MG/L	0.4	ND	ND	0.6
Nitrate	.04	MG/L	0.26	0.34	0.22	0.53
Ortho Phosphate (as PO4)	.2	MG/L	ND	ND	ND	ND
Sulfate	9	MG/L	26	31	20	22
Cyanide, Total	.002	MG/L	0.02	0.02	0.02	0.02
Sulfides-Reactive	11	MG/KG	141	91	166	148
Total Kjeldahl Nitrogen	1.6	MG/L	2340	2430	1780	1850

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

POINT LOMA WASTEWATER TREATMENT PLANT

QUARTERLY SLUDGE PROJECT
(Metals from Digestion and Ions from Supernatant)

Annual 2015

Source:			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL
Date:			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Sample ID:	MDL	Units	P755996	P778700	P795125	P807326
Aluminum	476	UG/L	9090	3860	92000	20700
Antimony	48.8	UG/L	9	ND	2090	28
Arsenic	1.5	UG/L	3.9	11.6	8.5	24.4
Barium	14	UG/L	608	320	8170	1770
Beryllium	10	UG/L	ND	0.85	2030.00	ND
Boron	28	UG/L	355	189	2600	441
Cadmium	5.2	UG/L	1.0	ND	2040.0	2.1
Chromium	10.8	UG/L	53	29	2610	128
Cobalt	4.8	UG/L	4	3	2150	23
Copper	43.2	UG/L	837	433	13600	2790
Iron	312	UG/L	97800	51300	1590000	285000
Lead	33.6	UG/L	15	ND	2170	74
Manganese	15.6	UG/L	676	354	8420	1170
Mercury	.125	UG/L	2.4	0.2	0.8	2.4
Molybdenum	6.4	UG/L	29	15	2270	88
Nickel	10.6	UG/L	34	24	2450	120
Selenium	1	UG/L	5.4	11.7	7.9	4.0
Silver	14.6	UG/L	6	ND	269	14
Thallium	62.4	UG/L	ND	ND	1950.0	ND
Vanadium	4.5	UG/L	19	24	2930	126
Zinc	41.9	UG/L	1050	525	14200	2710
Calcium	.04	MG/L	95	91	88	95
Lithium	.002	MG/L	0.06	0.06	0.06	0.05
Magnesium	.1	MG/L	42	39	40	44
Potassium	.3	MG/L	30	34	30	31
Sodium	1	MG/L	218	220	216	223
Bromide	.1	MG/L	0.4	0.4	0.4	0.3
Chloride	7	MG/L	399	389	396	373
Fluoride	.05	MG/L	0.6	0.5	0.4	0.3
Nitrate	.04	MG/L	ND	ND	ND	0.23
Ortho Phosphate (as PO4)	.2	MG/L	27	38	42	34
Sulfate	9	MG/L	50	30	25	36
Cyanide, Total	.002	MG/L	0.01	0.01	0.01	0.01
Sulfides-Reactive	11	MG/KG	35	38	14	36
Total Kjeldahl Nitrogen	1.6	MG/L	215	168	130	319

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

POINT LOMA WASTEWATER TREATMENT PLANT
QUARTERLY SLUDGE PROJECT
Radioactivity

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

Annual 2015

Source	Sample Date	Sample ID	Gross Alpha Radiation pCi/L	Gross Beta Radiation pCi/L
PLE	03-FEB-2015	P755927	0.3±8.9	41.6±13.0
PLE	05-MAY-2015	P778631	-1.6±7.1	38.5±7.8
PLE	04-AUG-2015	P795056	-1.1±8.7	29.8±7.3
PLE	08-OCT-2015	P812596	5.8±8.3	37.6±8.7
PLR	03-FEB-2015	P755933	2.7±9.4	34.9±11.5
PLR	05-MAY-2015	P778637	0.4±6.3	35.1±7.3
PLR	04-AUG-2015	P795062	3.7±7.0	26.8±6.8
PLR	08-OCT-2015	P812595	1.4±6.6	33.2±7.0
MBC_COMBCN	03-FEB-2015	P755944	4.1±20.0	69.0±17.0
MBC_COMBCN	05-MAY-2015	P778648	2.4±6.6	49.0±8.1
MBC_COMBCN	04-AUG-2015	P795073	7.4±8.2	42.3±8.6
MBC_COMBCN	06-OCT-2015	P807274	5.6±8.6	45.0±9.9

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-2015	P769990	4130±4300	8980±2000
MBCDEWCN	31-MAY-2015	P786786	3210±4050	10100±2100
MBCDEWCN	31-AUG-2015	P803550	6010±4900	15900±2700
MBCDEWCN	31-OCT-2015	P815009	3900±4600	14100±2500

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
ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2015

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755927	P778631	P795056	P812596	P755933	P778637
Aldrin	4	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	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	4	NG/L	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND
Heptachlors	9.4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	7	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	2	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	4.3	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

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

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 / METROBIOSOLIDS CENTER
ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2015

Source			PLR	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P795062	P812595	P755944	P778648	P795073	P807274
Aldrin	4	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	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	4	NG/L	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND
Heptachlors	9.4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	7	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	2	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	4.3	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

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

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 / METROBIOSOLIDS CENTER
ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2015

Source			MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P755998	P778702	P795127	P807328
Aldrin	4	NG/L	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	NG/L	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA
Cis Nonachlor	4	NG/L	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND
Heptachlors	9.4	NG/L	0.0	0.0	0.0	0.0
Endosulfans	7	NG/L	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	2000	NG/L	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	4	NG/L	0.0	0.0	0.0	0.0
DDT and derivatives	4	NG/L	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	2	NG/L	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	4.3	NG/L	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	2000	NG/L	0.0	0.0	0.0	0.0

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

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 / METROBIOSOLIDS CENTER
ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2015

Source			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL	RAW COMP	RAW COMP
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755996	P778700	P795125	P807326	P755969	P778673
Aldrin	4	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	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	4	NG/L	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND
Heptachlors	9.4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	7	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	2	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	4.3	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

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

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 / METROBIOSOLIDS CENTER
ANNUAL SUMMARY
Chlorinated Pesticide Analysis, EPA Method 608 (with additions)

Annual 2015

Source			RAW COMP	RAW COMP	DIG COMP	DIG COMP	DIG COMP	DIG COMP
Date			04-AUG-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P795098	P807299	P755983	P778687	P795112	P807313
Aldrin	4	NG/L	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	.2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	2	NG/L	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	.34	NG/L	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	1.4	NG/L	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	1.3	NG/L	ND	ND	ND	ND	ND	ND
Alpha Chlordene	0	NG/L	NA	NA	NA	NA	NA	NA
Gamma Chlordene	0	NG/L	NA	NA	NA	NA	NA	NA
Cis Nonachlor	4	NG/L	ND	ND	ND	ND	ND	ND
Dieldrin	4.3	NG/L	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	7	NG/L	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	1.5	NG/L	ND	ND	ND	ND	ND	ND
Beta Endosulfan	3.1	NG/L	ND	ND	ND	ND	ND	ND
Endrin	6	NG/L	ND	ND	ND	ND	ND	ND
Endrin aldehyde	5.4	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor	.6	NG/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	9.4	NG/L	ND	ND	ND	ND	ND	ND
Methoxychlor	20	NG/L	ND	ND	ND	ND	ND	ND
Mirex	2.3	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDE	2	NG/L	ND	ND	ND	ND	ND	ND
o,p-DDT	2.4	NG/L	ND	ND	ND	ND	ND	ND
Oxychlordane	2	NG/L	ND	ND	ND	ND	ND	ND
PCB 1016	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1221	2000	NG/L	ND	ND	ND	ND	ND	ND
PCB 1232	750	NG/L	ND	ND	ND	ND	ND	ND
PCB 1242	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1248	250	NG/L	ND	ND	ND	ND	ND	ND
PCB 1254	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1260	500	NG/L	ND	ND	ND	ND	ND	ND
PCB 1262	500	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDD	4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDE	1.4	NG/L	ND	ND	ND	ND	ND	ND
p,p-DDT	3	NG/L	ND	ND	ND	ND	ND	ND
Toxaphene	250	NG/L	ND	ND	ND	ND	ND	ND
Trans Nonachlor	1.1	NG/L	ND	ND	ND	ND	ND	ND
Heptachlors	9.4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Endosulfans	7	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Polychlorinated biphenyls	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlordane + related cmpds.	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
DDT and derivatives	4	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Hexachlorocyclohexanes	2	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Aldrin + Dieldrin	4.3	NG/L	0.0	0.0	0.0	0.0	0.0	0.0
Chlorinated Hydrocarbons	2000	NG/L	0.0	0.0	0.0	0.0	0.0	0.0

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

METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015
Analyte	MDL	Units	P758659	P769990	P775406	P782251	P786786
Aldrin	640	NG/KG	ND	ND	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0	0	0
DDT and derivatives	970	NG/KG	0	0	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0	0	0	0

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

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

METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			30-JUN-2015	31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015
Analyte	MDL	Units	P792465	P798504	P803550	P809985	P815009
Aldrin	640	NG/KG	ND	ND	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0	0	0
DDT and derivatives	970	NG/KG	0	0	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0	0	0	0

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

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

METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
Chlorinated Pesticide Analysis

Annual 2015

Source			MBCDEWCN	MBCDEWCN	
Date			30-NOV-2015	28-DEC-2015	Annual
Analyte	MDL	Units	P822361	P829082	Average
Aldrin	640	NG/KG	ND	ND	ND
Dieldrin	1700	NG/KG	ND	ND	ND
BHC, Alpha isomer	390	NG/KG	ND	ND	ND
BHC, Beta isomer	860	NG/KG	ND	ND	ND
BHC, Gamma isomer	432	NG/KG	ND	ND	ND
BHC, Delta isomer	940	NG/KG	ND	ND	ND
p,p-DDD	690	NG/KG	ND	ND	ND
p,p-DDE	700	NG/KG	ND	ND	ND
p,p-DDT	840	NG/KG	ND	ND	ND
o,p-DDD	970	NG/KG	ND	ND	ND
o,p-DDE	643	NG/KG	ND	ND	ND
o,p-DDT	941	NG/KG	ND	ND	ND
Heptachlor	1700	NG/KG	ND	ND	ND
Heptachlor epoxide	2560	NG/KG	ND	ND	ND
Alpha (cis) Chlordane	840	NG/KG	ND	ND	ND
Gamma (trans) Chlordane	540	NG/KG	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA
Oxychlordane	362	NG/KG	ND	ND	ND
Trans Nonachlor	1000	NG/KG	ND	ND	ND
Cis Nonachlor	850	NG/KG	ND	ND	ND
Alpha Endosulfan	762	NG/KG	ND	ND	ND
Beta Endosulfan	570	NG/KG	ND	ND	ND
Endosulfan Sulfate	1020	NG/KG	ND	ND	ND
Endrin aldehyde	1001	NG/KG	ND	ND	ND
Toxaphene	48660	NG/KG	ND	ND	ND
Mirex	680	NG/KG	ND	ND	ND
Methoxychlor	1460	NG/KG	ND	ND	ND
PCB 1016	83300	NG/KG	ND	ND	ND
PCB 1221	667000	NG/KG	ND	ND	ND
PCB 1232	500000	NG/KG	ND	ND	ND
PCB 1242	66860	NG/KG	ND	ND	ND
PCB 1248	83300	NG/KG	ND	ND	ND
PCB 1254	83300	NG/KG	ND	ND	ND
PCB 1260	333000	NG/KG	ND	ND	ND
PCB 1262	83300	NG/KG	ND	ND	ND
Aldrin + Dieldrin	1700	NG/KG	0	0	0
Hexachlorocyclohexanes	940	NG/KG	0	0	0
DDT and derivatives	970	NG/KG	0	0	0
Chlordane + related cmpds.	840	NG/KG	0	0	0
Polychlorinated biphenyls	667000	NG/KG	0	0	0
Chlorinated Hydrocarbons	667000	NG/KG	0	0	0

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

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 / METROBIOSOLIDS CENTER
SLUDGE PROJECT- ANNUAL SUMMARY
Organophosphorus Pesticides

2015 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			04-JAN-2015	03-FEB-2015	11-MAR-2015	05-APR-2015	05-MAY-2015	10-JUN-2015
Analyte	MDL	Units	P752883	P755927	P771987	P776839	P778631	P788333
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			06-JUL-2015	04-AUG-2015	09-SEP-2015	08-OCT-2015	09-NOV-2015	07-DEC-2015
Analyte	MDL	Units	P793369	P795056	P805593	P812596	P816795	P823254
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

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

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER
SLUDGE PROJECT- ANNUAL SUMMARY
Organophosphorus Pesticides

2015 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			04-JAN-2015	03-FEB-2015	11-MAR-2015	05-APR-2015	05-MAY-2015	10-JUN-2015
Analyte	MDL	Units	P752886	P755933	P771990	P776842	P778637	P788336
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			06-JUL-2015	04-AUG-2015	09-SEP-2015	08-OCT-2015	09-NOV-2015	07-DEC-2015
Analyte	MDL	Units	P793372	P795062	P805596	P812595	P816798	P823257
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	ND	ND	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	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00

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

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2015 Annual

Source			MBC_COMBCN	MBC_COMBCN
Date			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778648	P807274
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			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778702	P807328
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

2015 Annual

Source			MBC_NC_RSL	MBC_NC_RSL
Date			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778700	P807326
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			05-MAY-2015	06-OCT-2015
Analyte	MDL	Units	P778673	P807299
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

2015 Annual

Analyte	MDL	Units	DIG COMP 05-MAY-2015 P778687	DIG COMP 06-OCT-2015 P807313
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

METROBIOSOLIDS CENTER
SLUDGE PROJECT - ANNUAL SUMMARY
ORGANOPHOSPHORUS PESTICIDES

From 01-JAN-2015 To 31-DEC-2015

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2015	31-OCT-2015
Analyte	MDL	Units	P786786	P815009
Demeton O	67	UG/KG	ND	ND
Demeton S	27	UG/KG	ND	ND
Diazinon		UG/KG	ND	ND
Guthion	33	UG/KG	ND	ND
Malathion	20	UG/KG	ND	ND
Parathion	20	UG/KG	ND	ND
Chlorpyrifos		UG/KG	ND	ND
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	0.0

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

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

Annual 2015

Source	PLE	PLE	PLE	PLE	PLR	PLR	PLR
Date	03-FEB-2015	05-MAY-2015	04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015
Analye	P755927	P778631	P795056	P812596	P755933	P778637	P795062
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	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015	31-MAY-2015	31-OCT-2015
Analyte	P812595	P755944	P778648	P795073	P807274	P786786	P815009
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
Quarterly Sludge Project
Herbicide Analysis

Source:			MBCDEWCN	MBCDEWCN
Date:			31-MAY-2015	31-OCT-2015
Sample:	MDL	Units	P786786	P815009
2,4-Dichlorophenoxyacetic acid	.0695	MG/KG	ND	ND^
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND^

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

^ = LCS or LCSD is outside acceptance limits. Result exceeded calibration range. Value is not reportable.

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

Annual 2015

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755927	P778631	P795056	P812596	P755933	P778637
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	27.7	24.1	18.8	31.6	35.5
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	25.1	27.7	24.1	18.8	31.6	35.5
Phenols	2.16	UG/L	25.1	27.7	24.1	18.8	31.6	35.5
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	84.6	51.5	41.7	37.2	77.6	57.4
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			04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analye	MDL	Units	P795062	P812595	P755944	P778648	P795073	P807274
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	21.9	ND	3.0	3.3
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	37.1	32.2	11.3	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	37.1	32.2	33.2	0.0	3.0	3.3
Phenols	2.16	UG/L	37.1	32.2	33.2	0.0	3.0	3.3
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	64.9	72.4	9.2	2.5	3.4	11.6
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 2015

Source			RAW COMP	RAW COMP	RAW COMP	DIG COMP	DIG COMP	DIG COMP
Date			03-FEB-2015	05-MAY-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015
Analyte	MDL	Units	P755969	P778673	P807299	P755983	P778687	P795112
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	37.2	76.1	ND	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	37.2	76.1	0.0	0.0	0.0	0.0
Phenols	2.16	UG/L	37.2	76.1	0.0	0.0	0.0	0.0
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	631	473	118	11.7	ND	DNQ3.3
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND	ND	ND	ND

Source			DIG COMP	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_DSL	MBC_NC_RSL
Date			06-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015	03-FEB-2015
Analyte	MDL	Units	P807313	P755998	P778702	P795127	P807328	P755996
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	36.9	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	ND	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	0.0	0.0	36.9	0.0
Phenols	2.16	UG/L	0.0	0.0	0.0	0.0	36.9	0.0
2-Methylphenol	2.15	UG/L	ND	ND	ND	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	DNQ4.2	23.5	15.7	14.8	DNQ4.9	93.8
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 2015

Source			MBC_NC_RSL	MBC_NC_RSL	MBC_NC_RSL
Date			05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P778700	P795125	P807326
2-Chlorophenol	1.32	UG/L	ND	ND	ND
4-Chloro-3-methylphenol	1.67	UG/L	ND	ND	ND
2,4-Dichlorophenol	1.01	UG/L	ND	ND	ND
2,4-Dimethylphenol	2.01	UG/L	ND	ND	ND
2,4-Dinitrophenol	2.16	UG/L	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1.52	UG/L	ND	ND	ND
2-Nitrophenol	1.55	UG/L	ND	ND	ND
4-Nitrophenol	1.14	UG/L	ND	ND	ND
Pentachlorophenol	1.12	UG/L	ND	ND	ND
Phenol	1.76	UG/L	ND	ND	ND
2,4,6-Trichlorophenol	1.65	UG/L	ND	ND	ND
Total Chlorinated Phenols	1.67	UG/L	0.0	0.0	0.0
Total Non-Chlorinated Phenols	2.16	UG/L	0.0	0.0	0.0
Phenols	2.16	UG/L	0.0	0.0	0.0
2-Methylphenol	2.15	UG/L	ND	ND	ND
4-Methylphenol(3-MP is unresolved)	2.11	UG/L	33.0	78.2	203.0
2,4,5-Trichlorophenol	1.66	UG/L	ND	ND	ND

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2015	31-MAY-2015	31-AUG-2015	31-OCT-2015
Analyte	MDL	Units	P769990	P786786	P803550	P815009
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	500	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	3600	3950	2980	2460
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	3600	3950	3480	2460
Phenols	800	UG/KG	3600	3950	3480	2460
2-Methylphenol	330	UG/KG	ND	1300	ND	ND
4-Methylphenol(3-MP is unresolved)	330	UG/KG	1350	1450	1020	885
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 2015

Source			PLR	PLR	PLR	PLR	PLE	PLE
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755936	P778640	P795065	P807266	P755930	P778634
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	ND
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	2.0	1.8	DNQ1.8	DNQ1.5	3.6	2.0
Chloromethane	.5	UG/L	ND	ND	ND	ND	3.4	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	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	ND	DNQ0.5	ND	ND	ND	DNQ0.4
Methylene chloride	.3	UG/L	2.2	1.2	DNQ1.1	DNQ0.41*	2.6	ND
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	DNQ0.5	DNQ0.5	DNQ0.5	ND	1.7	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	3.4	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	4.2	3.0	0.0	0.0	11.3	2.0
Additional Analytes Determined;								
Acetone	4.5	UG/L	883	677	622	957	1080	456
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	ND	13.2	DNQ6.4	ND	ND	DNQ9.2
Carbon disulfide	.6	UG/L	DNQ1.6	DNQ2.6	2.8	2.0	DNQ2.3	DNQ2.5
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	DNQ0.4	ND	ND	ND	DNQ0.7
Styrene	.3	UG/L	DNQ0.6	DNQ0.5	ND	ND	ND	DNQ0.3
1,2,4-Trichlorobenzene	.7	UG/L	ND	ND	ND	ND	ND	ND
meta,para xylenes	.6	UG/L	ND	DNQ1.0	ND	ND	ND	DNQ1.5
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

*= The Response factor RSD of 59.5% is above 15% calibration criteria limit; therefore sample is not included in averages.

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 2015

Source			PLE	PLE	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			04-AUG-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P795059	P807260	P755947	P778651	P795076	P807277
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	ND
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	4.1	3.5	1.2	1.8	DNQ0.7	DNQ1.0
Chloromethane	.5	UG/L	5.6	3.3	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	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	ND	ND	DNQ0.5	DNQ0.8	DNQ0.5	ND*
Methylene chloride	.3	UG/L	DNQ1.4	DNQ0.44^	2.2	1.1	3.3	DNQ0.8
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	DNQ0.6	DNQ0.4	1.2	1.6	DNQ0.8	DNQ0.46*
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	5.6	3.3	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	9.7	7.2	4.6	4.5	3.3	0.0
Additional Analytes Determined;								
Acetone	4.5	UG/L	478.0	616.0	86.6	154.0	75.9	71.4
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	11.5	ND	ND	14.0	ND	ND
Carbon disulfide	.6	UG/L	2.7	2.3	DNQ0.9	DNQ1.0	DNQ0.7	ND
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

^= The Response factor RSD of 59.5% is above 15% calibration criteria limit; therefore sample is not included in averages.

* = QC criteria for matrix spike and internal check was not met.

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 2015

Source			DIG COMP*	DIG COMP	DIG COMP	DIG COMP	RAW COMP*	RAW COMP
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755983	P778687	P795112	P807313	P755969	P778673
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	DNQ55.2	DNQ64.3	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	ND	DNQ86.0	ND	DNQ98.0	ND	DNQ71.0
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	DNQ113	321	392	DNQ370	DNQ89	ND
Methylene chloride	3.5	UG/KG	ND	ND	ND	DNQ88.1^	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	2640	ND	876	DNQ150	DNQ75	DNQ100
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	2527	321	1268	0.0	0.0	0.0
Additional volatile organic compounds determined;								
Acetone	31.4	UG/KG	54300	13000	5210	5340	1820	65600
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	15600	4870	DNQ1720	2190	DNQ514	9460
Carbon disulfide	4.7	UG/KG	351	DNQ597	245	268	DNQ99	DNQ231
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	ND	DNQ58.6	ND	ND
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	DNQ126.0	ND	DNQ33.9	DNQ51.7	ND	ND
Styrene	1.7	UG/KG	444.0	ND	DNQ54.6	DNQ49.4	ND	317.0
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
meta,para xylenes	4.2	UG/KG	DNQ289.0	ND	DNQ60.5	DNQ96.4	DNQ28.0	ND
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

* = Holding time criteria of less than 14 days was not met. Sample is not reportable.
^ = The Response factor RSD of 59.5% is above 15% calibration criteria limit; therefore sample is not included in averages.

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 2015

Source			RAW COMP	RAW COMP
Date			04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P795098	P807299
Acrolein	6.4	UG/KG	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND
Benzene	2.1	UG/KG	ND	ND
Bromodichloromethane	2.2	UG/KG	ND	ND
Bromoform	2.4	UG/KG	ND	ND
Bromomethane	6.9	UG/KG	DNQ26.2	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	ND
Chloromethane	3.4	UG/KG	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	DNQ67.9
1,1-Dichloroethane	1.9	UG/KG	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND
1,1-Dichloroethene	5	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	DNQ35	DNQ61
Methylene chloride	3.5	UG/KG	DNQ61.6	ND
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	DNQ9.0
Toluene	1.2	UG/KG	DNQ115	217
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
Trichlorofluoromethane	2.2	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	0.0	217

Additional volatile organic compounds determined;

Acetone	31.4	UG/KG	35500	18300
Allyl chloride	3.6	UG/KG	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND
2-Butanone	36.3	UG/KG	5730	3350
Carbon disulfide	4.7	UG/KG	137	144
Chloroprene	3.1	UG/KG	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	ND
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	DNQ33.7	DNQ59.2
Styrene	1.7	UG/KG	202	184
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND
meta,para xylenes	4.2	UG/KG	DNQ73.7	DNQ161.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	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.

METRO BIOSOLIDS CENTER
Purgeables

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			02-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015
Analyte	MDL	Units	P751631	P769990	P775406	P782251	P786786	P792465
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	DNQ33.0	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	29.0	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND	DNQ9.0
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	47.0	42.5
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	417.0	304.0	265.0	332.0	264.0
Methylene chloride	3.5	UG/KG	ND	DNQ17.6	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	85.0	80.0	70.0	69.0	68.0
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	0.0	502	384.0	335.0	477	374.5
Additional analytes determined;								
Acetone	31.4	UG/KG	ND	19400	20400	18100	13400	24100
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	ND	6440	7430	6840	5530	9470
Carbon disulfide	4.7	UG/KG	ND	55.0	61.0	97.5	73.5	111.0
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	ND	DNQ27.5	19.5	133.0	23.5	DNQ16.0
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	ND	51.0	33.5	46.0	45.5	28.0
Styrene	1.7	UG/KG	ND	60.0	53.5	60.5	83.0	67.0
meta,para xylenes	4.2	UG/KG	ND	DNQ35.1	61.5	92.5	87.0	58.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	DNQ18.5	ND	ND	DNQ15.5	DNQ20.5

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.

METRO BIOSOLIDS CENTER
Purgeables
Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			01-JUL-2015	31-JUL-2015	31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015
Analyte	MDL	Units	P792466	P798504	P803550	P809985	P815009	P822361
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	DNQ27.1	ND	DNQ13.7	ND	DNQ9.1
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	<1.8	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	47.2	41.8	39.8	39.6	57.7
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	452.0	413.0	281.0	223.0	265.0
Methylene chloride	3.5	UG/KG	ND	DNQ4.9	ND	DNQ9.51*	<3.5	DNQ6.1
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	ND	136.0	72.9	74.7	57.4	62.9
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	0.0	635.2	527.7	395.5	320.0	385.6
Additional analytes determined;								
Acetone	31.4	UG/KG	ND	21300	15600	20900	21500	25400
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	ND	6090	4380	8440	6390	9500
Carbon disulfide	4.7	UG/KG	ND	80.7	74.9	129.0	149.0	232.0
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	ND	ND	25.5	DNQ26.0	24.7	ND
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	ND	42.7	29.0	32.2	29.4	38.1
Styrene	1.7	UG/KG	ND	56.9	48.9	35.3	24.8	41.9
meta,para xylenes	4.2	UG/KG	ND	82.5	56.1	63.1	58.8	DNQ72.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	31.9	23.6	27.3	24.3	25.3

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

*= The RSD of analyte response factor is above 15% calibration criteria limit; therefore sample is not included in averages.

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

METRO BIOSOLIDS CENTER
Purgeables
Annual 2015

Source			MBCDEWCN	Average
Date			28-DEC-2015	
Analyte	MDL	Units	P829082	
Acrolein	6.4	UG/KG	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND
Benzene	2.1	UG/KG	ND	0.0
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	ND
Chloromethane	3.4	UG/KG	ND	0.0
Dibromochloromethane	2.4	UG/KG	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	0.0
1,3-Dichlorobenzene	1.8	UG/KG	ND	0.0
1,4-Dichlorobenzene	1.5	UG/KG	60.8	29.0
Dichlorodifluoromethane	5.56	UG/KG	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND
1,1-Dichloroethene	5	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	201	262.8
Methylene chloride	3.5	UG/KG	DNQ7.56*	0.0
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND
Toluene	1.2	UG/KG	73.1	65.3
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
Trichlorofluoromethane	2.2	UG/KG	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0
Purgeable Compounds	6.9	UG/KG	334.9	368.6
Additional analytes determined;				
Acetone	31.4	UG/KG	10600	16208
Allyl chloride	3.6	UG/KG	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND
2-Butanone	36.3	UG/KG	4360	5759.2
Carbon disulfide	4.7	UG/KG	98.1	89.4
Chloroprene	3.1	UG/KG	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	18.9
Methyl Iodide	3.8	UG/KG	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND
ortho-xylene	1.9	UG/KG	35.8	31.6
Styrene	1.7	UG/KG	24.3	42.8
meta,para xylenes	4.2	UG/KG	66.2	46.6
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	20.7	16.0

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

*= The RSD of analyte response factor is above 15% calibration criteria limit; therefore sample is not included in averages.

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 Pollutants Base/Neutral Compounds, EPA Method 625

Annual 2015

Source			PLE	PLE	PLE	PLE	PLR	PLR
Date			03-FEB-2015	05-MAY-2015	04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015
Analyte	MDL	Units	P755927	P778631	P795056	P812596	P755933	P778637
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	10.8	19.3
Diethyl phthalate	3.05	UG/L	4.2	<3.1	4.4	<3.1	13.4	4.0
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	4.2	0.0	4.4	0.0	24.2	23.3
Additional Analytes Determined;								
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

Annual 2015

Source			PLR	PLR	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN	MBC_COMBCN
Date			04-AUG-2015	08-OCT-2015	03-FEB-2015	05-MAY-2015	04-AUG-2015	06-OCT-2015
Analyte	MDL	Units	P795062	P812595	P755944	P778648	P795073	P807274
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	17.7	11.9	13.9	10.0	22.7	11.6
Diethyl phthalate	3.05	UG/L	4.6	5.1	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	54.1	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	22.3	17.0	13.9	10.0	76.8	11.6
Additional Analytes Determined;								
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

Annual 2015

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2015	31-MAY-2015	31-AUG-2015	31-OCT-2015
Analyte		Units	P769990	P786786	P803550	P815009
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
Benzo[a]anthracene	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]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
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	ND	1610	660
Di-n-butyl phthalate	330	UG/KG	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	330	UG/KG	67100	64300	69700	67000
Diethyl phthalate	330	UG/KG	ND	ND	<330	ND
Dimethyl phthalate	330	UG/KG	ND	ND	ND	ND
Di-n-octyl phthalate	330	UG/KG	470	ND	1440	2020
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	ND	<330
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	505	ND	355
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	ND	ND	<330
Pyrene	330	UG/KG	ND	<330	<330	<330
1,2,4-Trichlorobenzene	330	UG/KG	ND	ND	ND	ND
Polynuc. Aromatic Hydrocarbons			0	0	0	0
Base/Neutral Compounds			67570	64805	72750	70035

Additional Analytes Determined;

Benzo[e]pyrene		UG/KG	ND	ND	ND	ND
Biphenyl		UG/KG	ND	680	ND	255
2,6-Dimethylnaphthalene		UG/KG	890	1320	1320	1220
1-Methylnaphthalene		UG/KG	ND	215	ND	120
1-Methylphenanthrene		UG/KG	ND	ND	ND	ND
2-Methylnaphthalene		UG/KG	315	570	321	390
2,3,5-Trimethylnaphthalene		UG/KG	ND	ND	ND	ND
Perylene	330	UG/KG	ND	ND	ND	ND
2-Chloronaphthalene		UG/KG	ND	ND	ND	ND
Pyridine		UG/KG	ND	ND	ND	ND

* = QC criteria for matrix spike and internal check was not met.

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

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

Annual 2015
Performed by: Frontier Labs

Source			PLR	PLR	PLR	PLR	PLR	PLR*	PLR*	PLR*
Month			JAN	MAR	APR	MAY	JUN	JUL	AUG	SEP
Analyte	MDL	Units	P753266	P770079	P775559	P778637	P786871	P792473	P795062	P803626
2,3,7,8-tetra CDD	.98	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	ND	ND	ND	ND	ND	DNQ1.4	DNQ0.80	DNQ2.0
1,2,3,7,8,9-hexa CDD	.68	PG/L	ND	ND	ND	ND	ND	DNQ1.1	ND	DNQ1.7
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	DNQ16.4	27.9	DNQ19.6	DNQ15.6	DNQ16.2	DNQ24.0	DNQ13.0	DNQ12.0
octa CDD	1.4	PG/L	150.0	350.0	200.0	160.0	170.0	260.0	DNQ140.0	100.0
2,3,7,8-tetra CDF	1	PG/L	ND	ND	ND	ND	ND	DNQ1.3	DNQ1.20	ND
1,2,3,7,8-penta CDF	1.2	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	ND	ND	ND	ND	ND	DNQ0.82	DNQ0.69	DNQ1.10
1,2,3,6,7,8-hexa CDF	.52	PG/L	DNQ1.30	ND	DNQ2.33	ND	DNQ2.73	DNQ0.77	DNQ0.50	DNQ0.87
1,2,3,7,8,9-hexa CDF	.48	PG/L	ND	ND	ND	ND	ND	ND	ND	DNQ1.40
2,3,4,6,7,8-hexa CDF	.45	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	DNQ3.33	DNQ7.82	DNQ5.08	DNQ3.53	4.41	DNQ6.70	DNQ2.00	DNQ2.70
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.84	PG/L	DNQ9.07	DNQ15.4	DNQ11.9	DNQ8.81	DNQ10.2	DNQ25.0	DNQ9.80	DNQ7.20

Source			PLR*	PLR*	PLR
Month			OCT	NOV	DEC
Analyte	MDL	Units	P812595		P827987
2,3,7,8-tetra CDD	.98	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.68	PG/L	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	DNQ2.00	DNQ19.2	DNQ8.60
octa CDD	1.4	PG/L	DNQ16.0	190.0	89.0
2,3,7,8-tetra CDF	1	PG/L	ND	DNQ1.15	ND
1,2,3,7,8-penta CDF	1.2	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	ND	<0.580	ND
1,2,3,6,7,8-hexa CDF	.52	PG/L	ND	<0.520	DNQ1.69
1,2,3,7,8,9-hexa CDF	.48	PG/L	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	ND	<0.450	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	ND	DNQ6.74	DNQ3.0
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	ND	ND	ND
octa CDF	.84	PG/L	DNQ2.70	DNQ13.0	DNQ6.31

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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
SLUDGE PROJECT - ANNUAL SUMMARY
Dioxin and Furan Analysis

Annual 2015
Performed by: Frontier Labs

Source			PLE	PLE	PLE	PLE	PLE	PLE	PLE*	PLE*
Month			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	P753263	P755927	P770076	P775556	P778631	P786868	P792470	P795056
2,3,7,8-tetra CDD	.7	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	DNQ0.75	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.83	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.20	DNQ0.64
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	DNQ2.24	DNQ3.33	DNQ4.59	DNQ3.16	DNQ2.18	DNQ2.24	DNQ2.4	DNQ1.6
octa CDD	1.4	PG/L	DNQ17.0	DNQ19.0	DNQ44.0	DNQ23.0	DNQ14.0	DNQ14.0	DNQ16.0	DNQ12.0
2,3,7,8-tetra CDF	.46	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.34	ND
1,2,3,7,8-penta CDF	.44	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.10	ND
2,3,4,7,8-penta CDF	.48	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.89	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.00	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.96	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.20	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	ND	ND	ND	ND	ND	ND	DNQ0.84	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	ND	ND	ND	ND	ND	ND	DNQ1.90	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.738	PG/L	ND	ND	ND	ND	ND	ND	DNQ5.50	DNQ2.80

Source			PLE*	PLE*	PLE
Month			SEP	NOV	DEC
Analyte	MDL	Units	P803623		P827984
2,3,7,8-tetra CDD	.7	PG/L	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	.46	PG/L	ND	DNQ0.50	ND
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	DNQ2.0	DNQ3.17	ND
octa CDD	1.4	PG/L	DNQ26.0	DNQ23.0	DNQ12.3
2,3,7,8-tetra CDF	.46	PG/L	ND	ND	ND
1,2,3,7,8-penta CDF	.44	PG/L	ND	ND	ND
2,3,4,7,8-penta CDF	.48	PG/L	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	ND	DNQ0.230	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	ND	DNQ0.303	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	DNQ0.59	DNQ0.468	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	DNQ0.39	DNQ0.465	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	DNQ1.30	DNQ0.865	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	ND	DNQ0.463	ND
octa CDF	.738	PG/L	DNQ3.30	DNQ0.910	ND

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica on October 2015 data, the results from the following samples indicate a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore no results can be reported for effluent sample. No data available.

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

Dioxin and Furan Analysis

Annual 2015

Performed by: Frontier Labs

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	P753266	P755933	P770079	P775559	P778637	P786871	P792473	P795062
2,3,7,8-tetra CDD	.98	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.140	DNQ0.080
1,2,3,7,8,9-hexa CDD	.68	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.110	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	0.010	DNQ0.164	DNQ0.196	0.279	DNQ0.196	DNQ0.156	DNQ0.162	DNQ0.240	DNQ0.130
octa CDD	1.4	PG/L	0.001	0.150	0.180	0.350	0.200	0.160	0.170	0.260	DNQ0.140
2,3,7,8-tetra CDF	1	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.130	DNQ0.120
1,2,3,7,8-penta CDF	1.2	PG/L	0.050	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	0.500	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.082	DNQ0.069
1,2,3,6,7,8-hexa CDF	.52	PG/L	0.100	DNQ0.130	DNQ0.142	ND	DNQ0.233	ND	DNQ0.273	DNQ0.077	DNQ0.050
1,2,3,7,8,9-hexa CDF	.48	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	0.100	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	0.010	DNQ0.033	DNQ0.036	DNQ0.078	DNQ0.051	DNQ0.035	0.044	DNQ0.067	DNQ0.020
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	0.010	ND	ND	ND	ND	ND	ND	ND	ND
octa CDF	.84	PG/L	0.001	DNQ0.009	DNQ0.008	DNQ0.015	DNQ0.012	DNQ0.009	DNQ0.010	DNQ0.025	DNQ0.010

Source				PLR* TCDD	PLR* TCDD	PLR* TCDD	PLR TCDD
Month				SEP	OCT	NOV	DEC
Analyte	MDL	Units	Equiv	P803626	P812595		P827987
2,3,7,8-tetra CDD	.98	PG/L	1.000	ND	ND	ND	ND
1,2,3,7,8-penta CDD	3.8	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.82	PG/L	0.100	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.76	PG/L	0.100	DNQ0.200	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.68	PG/L	0.100	DNQ0.170	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	.69	PG/L	0.010	DNQ0.120	DNQ0.020	DNQ0.192	DNQ0.086
octa CDD	1.4	PG/L	0.001	0.100	DNQ0.016	0.190	0.089
2,3,7,8-tetra CDF	1	PG/L	0.100	ND	ND	DNQ0.115	ND
1,2,3,7,8-penta CDF	1.2	PG/L	0.050	ND	ND	ND	ND
2,3,4,7,8-penta CDF	.69	PG/L	0.500	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.58	PG/L	0.100	DNQ0.110	ND	DNQ0.039	ND
1,2,3,6,7,8-hexa CDF	.52	PG/L	0.100	DNQ0.087	ND	DNQ0.050	DNQ0.169
1,2,3,7,8,9-hexa CDF	.48	PG/L	0.100	DNQ0.140	ND	ND	ND
2,3,4,6,7,8-hexa CDF	.45	PG/L	0.100	ND	ND	DNQ0.036	ND
1,2,3,4,6,7,8-hepta CDF	2.3	PG/L	0.010	DNQ0.027	ND	DNQ0.067	DNQ0.030
1,2,3,4,7,8,9-hepta CDF	3.2	PG/L	0.010	ND	ND	ND	ND
octa CDF	.84	PG/L	0.001	DNQ0.007	DNQ0.003	DNQ0.013	DNQ0.006

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Above are permit required CDD/CDF isomers.

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

POINT LOMA WASTEWATER TREATMENT

Dioxin and Furan Analysis

Annual 2015

Performed by: Frontier Labs

Source				PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE TCDD	PLE* TCDD	PLE* TCDD
Month				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Analyte	MDL	Units	Equiv	P753263	P755927	P770076	P775556	P778631	P786868	P792470	P795056
2,3,7,8-tetra CDD	.7	PG/L	1.000	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	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	DNQ0.075	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.083	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.120	DNQ0.064
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	0.010	DNQ0.022	DNQ0.033	DNQ0.046	DNQ0.032	DNQ0.022	DNQ0.022	DNQ0.024	DNQ0.016
octa CDD	1.4	PG/L	0.001	DNQ0.017	DNQ0.019	DNQ0.044	DNQ0.023	DNQ0.014	DNQ0.014	DNQ0.016	DNQ0.012
2,3,7,8-tetra CDF	.46	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.034	ND
1,2,3,7,8-penta CDF	.44	PG/L	0.050	ND	ND	ND	ND	ND	ND	DNQ0.055	ND
2,3,4,7,8-penta CDF	.48	PG/L	0.500	ND	ND	ND	ND	ND	ND	DNQ0.445	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.100	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.096	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.120	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	ND	ND	ND	ND	ND	ND	DNQ0.084	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	0.010	ND	ND	ND	ND	ND	ND	DNQ0.019	ND
1,2,3,4,7,8,9-hepta CDF	1.7	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	DNQ0.006	DNQ0.003

Source				PLE* TCDD	PLE* TCDD	PLE TCDD
Month				SEP	NOV	DEC
Analyte	MDL	Units	Equiv	P803623		P827984
2,3,7,8-tetra CDD	.7	PG/L	1.000	ND	ND	ND
1,2,3,7,8-penta CDD	1.1	PG/L	0.500	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	.482	PG/L	0.100	ND	ND	ND
1,2,3,6,7,8-hexa CDD	.484	PG/L	0.100	ND	ND	ND
1,2,3,7,8,9-hexa CDD	.46	PG/L	0.100	ND	DNQ0.050	ND
1,2,3,4,6,7,8-hepta CDD	.478	PG/L	0.010	DNQ0.020	DNQ0.032	ND
octa CDD	1.4	PG/L	0.001	DNQ0.026	DNQ0.023	DNQ0.012
2,3,7,8-tetra CDF	.46	PG/L	0.100	ND	ND	ND
1,2,3,7,8-penta CDF	.44	PG/L	0.050	ND	ND	ND
2,3,4,7,8-penta CDF	.48	PG/L	0.500	ND	ND	ND
1,2,3,4,7,8-hexa CDF	.29	PG/L	0.100	ND	DNQ0.023	ND
1,2,3,6,7,8-hexa CDF	.281	PG/L	0.100	ND	DNQ0.030	ND
1,2,3,7,8,9-hexa CDF	.348	PG/L	0.100	DNQ0.059	DNQ0.047	ND
2,3,4,6,7,8-hexa CDF	.294	PG/L	0.100	DNQ0.039	DNQ0.047	ND
1,2,3,4,6,7,8-hepta CDF	1.3	PG/L	0.010	DNQ0.013	DNQ0.009	ND
1,2,3,4,7,8,9-hepta CDF	1.7	PG/L	0.010	ND	DNQ0.005	ND
octa CDF	.738	PG/L	0.001	DNQ0.003	DNQ0.001	ND

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

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

Above are permit required CDD/CDF isomers.

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

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

2015 Annual

Analyzed by: Frontier Analytical Laboratories

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN*
Date			31-JAN-2015	28-FEB-2015	31-MAR-2015	30-APR-2015	31-MAY-2015	30-JUN-2015	31-JUL-2015
Analyte	MDL	Units	P758659	P769990	P775406	P782251	P786786	P792465	P798504
2,3,7,8-tetra CDD	.18	NG/KG	DNQ0.75	ND	DNQ0.83	DNQ0.75	DNQ0.53	ND	DNQ0.11
1,2,3,7,8-penta CDD	10	NG/KG	ND	DNQ3.51	DNQ3.60	ND	DNQ1.85	ND	ND
1,2,3,4,7,8_hexa_CDD	.85	NG/KG	DNQ1.82	DNQ1.36	DNQ1.60	DNQ1.82	DNQ1.27	ND	ND
1,2,3,6,7,8-hexa CDD	.74	NG/KG	14.80	12.60	15.50	16.40	17.10	DNQ0.31	DNQ0.80
1,2,3,7,8,9-hexa CDD	.7	NG/KG	DNQ4.60	DNQ4.13	5.14	DNQ5.47	DNQ5.08	DNQ0.30	ND
1,2,3,4,6,7,8-hepta CDD	.71	NG/KG	216.00	191.00	311.00	271.00	214.00	<0.42	29.00
octa CDD	2.4	NG/KG	1330.00	1270.00	1800.00	1400.00	1160.00	<0.32	270.00
2,3,7,8-tetra CDF	.6	NG/KG	3.00	3.22	3.47	4.47	3.77	DNQ0.22	DNQ1.80
1,2,3,7,8-penta CDF	.19	NG/KG	DNQ1.33	DNQ1.41	DNQ1.47	DNQ1.86	DNQ1.61	ND	DNQ0.39
2,3,4,7,8-penta CDF	.19	NG/KG	DNQ2.39	DNQ2.31	DNQ1.81	DNQ1.52	DNQ1.83	DNQ0.19	DNQ0.45
1,2,3,4,7,8-hexa CDF	.15	NG/KG	DNQ2.40	DNQ2.65	DNQ2.59	DNQ2.39	DNQ2.47	DNQ0.15	DNQ0.46
1,2,3,6,7,8-hexa CDF	.28	NG/KG	DNQ2.14	DNQ2.67	DNQ2.28	DNQ2.53	DNQ2.12	DNQ0.16	DNQ0.78
1,2,3,7,8,9-hexa CDF	.18	NG/KG	ND	DNQ0.75	DNQ0.85	DNQ0.78	DNQ0.78	ND	ND
2,3,4,6,7,8-hexa CDF	.17	NG/KG	DNQ2.25	DNQ2.35	DNQ2.39	DNQ2.63	DNQ2.43	DNQ0.12	DNQ0.45
1,2,3,4,6,7,8-hepta CDF	6.6	NG/KG	23.10	22.60	26.90	25.60	24.10	<1.60	DNQ4.10
1,2,3,4,7,8,9-hepta CDF	2	NG/KG	DNQ1.48	DNQ1.57	DNQ1.80	DNQ1.79	DNQ1.53	ND	ND
octa CDF	.23	NG/KG	55.3	54.0	71.9	59.7	56.5	DNQ0.2	13.0

Source			MBCDEWCN*	MBCDEWCN*	MBCDEWCN*	MBCDEWCN*	MBCDEWCN
Date			31-AUG-2015	30-SEP-2015	31-OCT-2015	30-NOV-2015	28-DEC-2015
Analyte	MDL	Units	P803550	P809985	P815009	P822361	P829082
2,3,7,8-tetra CDD	.18	NG/KG	ND	DNQ0.15	DNQ0.18	DNQ0.01	DNQ0.02
1,2,3,7,8-penta CDD	10	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.03
1,2,3,4,7,8_hexa_CDD	.85	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.03
1,2,3,6,7,8-hexa CDD	.74	NG/KG	DNQ0.31	DNQ0.34	DNQ0.34	<0.03	<0.03
1,2,3,7,8,9-hexa CDD	.7	NG/KG	DNQ0.29	DNQ0.30	ND	DNQ0.03	DNQ0.03
1,2,3,4,6,7,8-hepta CDD	.71	NG/KG	<0.71	<0.42	<0.24	0.17	0.20
octa CDD	2.4	NG/KG	<2.40	0.27	<0.27	1.17	1.08
2,3,7,8-tetra CDF	.6	NG/KG	DNQ0.18	DNQ0.60	DNQ0.48	<0.01	<0.02
1,2,3,7,8-penta CDF	.19	NG/KG	DNQ0.11	ND	ND	DNQ0.02	DNQ0.02
2,3,4,7,8-penta CDF	.19	NG/KG	DNQ0.12	ND	ND	DNQ0.02	DNQ0.02
1,2,3,4,7,8-hexa CDF	.15	NG/KG	DNQ0.15	DNQ0.12	DNQ0.13	DNQ0.02	DNQ0.03
1,2,3,6,7,8-hexa CDF	.28	NG/KG	DNQ0.28	DNQ0.14	DNQ0.14	DNQ0.02	DNQ0.03
1,2,3,7,8,9-hexa CDF	.18	NG/KG	ND	ND	ND	DNQ0.02	DNQ0.03
2,3,4,6,7,8-hexa CDF	.17	NG/KG	DNQ0.17	DNQ0.13	DNQ0.14	DNQ0.02	DNQ0.02
1,2,3,4,6,7,8-hepta CDF	6.6	NG/KG	DNQ1.10	ND	DNQ1.40	<0.03	<0.03
1,2,3,4,7,8,9-hepta CDF	2	NG/KG	ND	ND	ND	DNQ0.03	DNQ0.04
octa CDF	.23	NG/KG	DNQ0.2	DNQ0.2	DNQ0.2	<0.1	0.1

* = Samples analyzed by TestAmerica from July to November 2015.

Note = Per TestAmerica, the results from October 2015 samples indicate that a spiking error occurred during the extraction process. The sample appears to have been spiked with the volume designated for the MS and MSD; therefore, no results can be reported for the effluent sample.

ND = not detected
NA = not analyzed
NS = not sampled
DNQ= (Detected but not quantified). Estimated analyte concentration below calibration range.

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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 2015. 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 2015. 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	PAST MDL	UNITS
ALK_VOL_SLDG	Volatile Organic Acids	16-Mar-15	3.74	5	MG/L
CHLORINE	Chlorine Residual, Total	30-Jul-15	0.03	0.03	MG/L
COND_WW	Conductivity	14-Jul-15	10	10	UMHOS/CM
CPEST_FISH_LIV	2,4,5,6 Tetrachloro-m-xylene	12-May-15	5.11	1.94	UG/KG
CPEST_FISH_LIV	Aldrin	12-May-15	4	25.3	UG/KG
CPEST_FISH_LIV	Alpha (cis) Chlordane	12-May-15	1.79	2.02	UG/KG
CPEST_FISH_LIV	Alpha Endosulfan	12-May-15	16.5	24.7	UG/KG
CPEST_FISH_LIV	Beta Endosulfan	12-May-15	19.8	43.8	UG/KG
CPEST_FISH_LIV	BHC, Alpha isomer	12-May-15	13.2	17.4	UG/KG
CPEST_FISH_LIV	BHC, Beta isomer	12-May-15	6	10.3	UG/KG
CPEST_FISH_LIV	BHC, Delta isomer	12-May-15	2.63	6.32	UG/KG
CPEST_FISH_LIV	BHC, Gamma isomer	12-May-15	13	50.4	UG/KG
CPEST_FISH_LIV	Cis Nonachlor	12-May-15	2.6	1.91	UG/KG
CPEST_FISH_LIV	Dieldrin	12-May-15	12.7	12.6	UG/KG
CPEST_FISH_LIV	Endosulfan Sulfate	12-May-15	28.5	58.3	UG/KG
CPEST_FISH_LIV	Endrin	12-May-15	12.7	30.3	UG/KG
CPEST_FISH_LIV	Endrin aldehyde	12-May-15	3.9	10.2	UG/KG
CPEST_FISH_LIV	Gamma (trans) Chlordane	12-May-15	2.41	3.07	UG/KG
CPEST_FISH_LIV	Heptachlor	12-May-15	1.23	2.1	UG/KG
CPEST_FISH_LIV	Heptachlor epoxide	12-May-15	4.11	3.79	UG/KG
CPEST_FISH_LIV	Hexachlorobenzene	12-May-15	2.35	2.29	UG/KG
CPEST_FISH_LIV	Methoxychlor	12-May-15	21.2	12.1	UG/KG
CPEST_FISH_LIV	Mirex	12-May-15	1.79	1.77	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
CPEST_FISH_LIV	o,p-DDD	12-May-15	1.04	1.98	UG/KG
CPEST_FISH_LIV	o,p-DDE	12-May-15	1.58	2.52	UG/KG
CPEST_FISH_LIV	o,p-DDT	12-May-15	2.37	2.05	UG/KG
CPEST_FISH_LIV	Oxychlordane	12-May-15	5.24	2.92	UG/KG
CPEST_FISH_LIV	p,p-DDD	12-May-15	2.1	2.86	UG/KG
CPEST_FISH_LIV	p,p-DDE	12-May-15	2.07	4.94	UG/KG
CPEST_FISH_LIV	p,p-DDMU	12-May-15	0.87	1.82	UG/KG
CPEST_FISH_LIV	p,p-DDT	12-May-15	1.48	2.76	UG/KG
CPEST_FISH_LIV	PCB 209	12-May-15	0.97	1.33	UG/KG
CPEST_FISH_LIV	PCB 30	12-May-15	1.8	1.46	UG/KG
CPEST_FISH_LIV	PCB 65	12-May-15	1.3	1.86	UG/KG
CPEST_FISH_LIV	Trans Nonachlor	12-May-15	2.24	1.44	UG/KG
CPEST_FISH_MUS	2,4,5,6 Tetrachloro-m-xylene	12-May-15	0.39	0.19	UG/KG
CPEST_FISH_MUS	Aldrin	12-May-15	0.44	2.53	UG/KG
CPEST_FISH_MUS	Alpha (cis) Chlordane	12-May-15	0.21	0.2	UG/KG
CPEST_FISH_MUS	Alpha Endosulfan	12-May-15	1.89	2.47	UG/KG
CPEST_FISH_MUS	Beta Endosulfan	12-May-15	2.67	4.38	UG/KG
CPEST_FISH_MUS	BHC, Alpha isomer	12-May-15	0.95	1.74	UG/KG
CPEST_FISH_MUS	BHC, Beta isomer	12-May-15	0.51	1.03	UG/KG
CPEST_FISH_MUS	BHC, Delta isomer	12-May-15	0.56	0.63	UG/KG
CPEST_FISH_MUS	BHC, Gamma isomer	12-May-15	0.78	5.04	UG/KG
CPEST_FISH_MUS	Cis Nonachlor	12-May-15	0.19	0.19	UG/KG
CPEST_FISH_MUS	Dieldrin	12-May-15	0.48	1.26	UG/KG
CPEST_FISH_MUS	Endosulfan Sulfate	12-May-15	2.84	5.83	UG/KG
CPEST_FISH_MUS	Endrin	12-May-15	1.88	3.03	UG/KG
CPEST_FISH_MUS	Endrin aldehyde	12-May-15	0.27	1.02	UG/KG
CPEST_FISH_MUS	Gamma (trans) Chlordane	12-May-15	0.24	0.31	UG/KG
CPEST_FISH_MUS	Heptachlor	12-May-15	0.25	0.21	UG/KG
CPEST_FISH_MUS	Heptachlor epoxide	12-May-15	0.28	0.38	UG/KG
CPEST_FISH_MUS	Hexachlorobenzene	12-May-15	0.42	0.23	UG/KG
CPEST_FISH_MUS	Methoxychlor	12-May-15	3.15	1.21	UG/KG
CPEST_FISH_MUS	Mirex	12-May-15	0.32	0.18	UG/KG
CPEST_FISH_MUS	o,p-DDD	12-May-15	0.23	0.2	UG/KG
CPEST_FISH_MUS	o,p-DDE	12-May-15	0.21	0.25	UG/KG
CPEST_FISH_MUS	o,p-DDT	12-May-15	0.23	0.2	UG/KG
CPEST_FISH_MUS	Oxychlordane	12-May-15	0.48	0.29	UG/KG
CPEST_FISH_MUS	p,p-DDD	12-May-15	0.35	0.29	UG/KG
CPEST_FISH_MUS	p,p-DDE	12-May-15	0.29	0.49	UG/KG
CPEST_FISH_MUS	p,p-DDMU	12-May-15	0.25	0.18	UG/KG
CPEST_FISH_MUS	p,p-DDT	12-May-15	0.33	0.28	UG/KG
CPEST_FISH_MUS	PCB 209	12-May-15	0.35	0.13	UG/KG
CPEST_FISH_MUS	PCB 30	12-May-15	0.21	0.15	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
CPEST_FISH_MUS	PCB 65	12-May-15	0.22	0.19	UG/KG
CPEST_FISH_MUS	Trans Nonachlor	12-May-15	0.2	0.14	UG/KG
CPEST_SED8081A	2,4,5,6 Tetrachloro-m-xylene	12-May-15	35	130	NG/KG
CPEST_SED8081A	Aldrin	12-May-15	300	70	NG/KG
CPEST_SED8081A	Alpha (cis) Chlordane	12-May-15	170	160	NG/KG
CPEST_SED8081A	Alpha Endosulfan	12-May-15	380	720	NG/KG
CPEST_SED8081A	Beta Endosulfan	12-May-15	230	780	NG/KG
CPEST_SED8081A	BHC, Alpha isomer	12-May-15	730	100	NG/KG
CPEST_SED8081A	BHC, Beta isomer	12-May-15	50	50	NG/KG
CPEST_SED8081A	BHC, Delta isomer	12-May-15	160	220	NG/KG
CPEST_SED8081A	BHC, Gamma isomer	12-May-15	500	190	NG/KG
CPEST_SED8081A	Cis Nonachlor	12-May-15	210	380	NG/KG
CPEST_SED8081A	Dieldrin	12-May-15	370	340	NG/KG
CPEST_SED8081A	Endosulfan Sulfate	12-May-15	570	1100	NG/KG
CPEST_SED8081A	Endrin	12-May-15	1000	510	NG/KG
CPEST_SED8081A	Endrin aldehyde	12-May-15	1800	2400	NG/KG
CPEST_SED8081A	Gamma (trans) Chlordane	12-May-15	61	190	NG/KG
CPEST_SED8081A	Heptachlor	12-May-15	76	120	NG/KG
CPEST_SED8081A	Heptachlor epoxide	12-May-15	130	300	NG/KG
CPEST_SED8081A	Hexachlorobenzene	12-May-15	64	70	NG/KG
CPEST_SED8081A	Methoxychlor	12-May-15	250	90	NG/KG
CPEST_SED8081A	Mirex	12-May-15	61	60	NG/KG
CPEST_SED8081A	o,p-DDD	12-May-15	90	100	NG/KG
CPEST_SED8081A	o,p-DDE	12-May-15	110	60	NG/KG
CPEST_SED8081A	o,p-DDT	12-May-15	73	110	NG/KG
CPEST_SED8081A	Oxychlordane	12-May-15	210	1200	NG/KG
CPEST_SED8081A	p,p-DDD	12-May-15	120	160	NG/KG
CPEST_SED8081A	p,p-DDE	12-May-15	90	90	NG/KG
CPEST_SED8081A	p,p-DDE	12-May-15	90	260	NG/KG
CPEST_SED8081A	p,p-DDMU	12-May-15	46	110	NG/KG
CPEST_SED8081A	p,p-DDT	12-May-15	52	70	NG/KG
CPEST_SED8081A	PCB 209	12-May-15	71	40	NG/KG
CPEST_SED8081A	Trans Nonachlor	12-May-15	150	240	NG/KG
MBAS	MBAS (Surfactants)	20-Jul-15	0.03	0.03	MG/L
NH3_N_TIT_WW	Ammonia-N	30-Jul-15	0.3	0.3	MG/L
NO2_N_WW	Nitrite (as N)	10-Jul-15	0.005	0.005	MG/L
NO2_NO3_N_WW	Nitrite/Nitrate as N	15-Jul-15	0.1	0.1	MG/L
O_G_HEM	Hexane Extractable Material	9-Oct-15	0.8	1.2	MG/L
O_G_HEM	Hexane Extractable Material	9-Oct-15	0.8	1.4	MG/L
PCB_FISH_LIV	PCB 101	12-May-15	2.31	1.7	UG/KG
PCB_FISH_LIV	PCB 105	12-May-15	2.63	2.28	UG/KG
PCB_FISH_LIV	PCB 110	12-May-15	2.18	2.13	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
PCB_FISH_LIV	PCB 114	12-May-15	2.1	2.77	UG/KG
PCB_FISH_LIV	PCB 118	12-May-15	2.29	2.56	UG/KG
PCB_FISH_LIV	PCB 119	12-May-15	1.04	2.72	UG/KG
PCB_FISH_LIV	PCB 123	12-May-15	1.49	3.04	UG/KG
PCB_FISH_LIV	PCB 126	12-May-15	1.48	1.93	UG/KG
PCB_FISH_LIV	PCB 128	12-May-15	1.81	2.28	UG/KG
PCB_FISH_LIV	PCB 138	12-May-15	2.18	1.93	UG/KG
PCB_FISH_LIV	PCB 149	12-May-15	1.6	1.92	UG/KG
PCB_FISH_LIV	PCB 151	12-May-15	2.33	1.52	UG/KG
PCB_FISH_LIV	PCB 153/168	12-May-15	3.49	3.76	UG/KG
PCB_FISH_LIV	PCB 156	12-May-15	1.24	2.33	UG/KG
PCB_FISH_LIV	PCB 157	12-May-15	1	2.77	UG/KG
PCB_FISH_LIV	PCB 158	12-May-15	1.24	2.55	UG/KG
PCB_FISH_LIV	PCB 167	12-May-15	0.74	2.05	UG/KG
PCB_FISH_LIV	PCB 169	12-May-15	1.15	1.41	UG/KG
PCB_FISH_LIV	PCB 170	12-May-15	2.12	2.16	UG/KG
PCB_FISH_LIV	PCB 177	12-May-15	1.75	1.96	UG/KG
PCB_FISH_LIV	PCB 18	12-May-15	0.89	1.49	UG/KG
PCB_FISH_LIV	PCB 180	12-May-15	2.49	2.89	UG/KG
PCB_FISH_LIV	PCB 183	12-May-15	1.56	2.06	UG/KG
PCB_FISH_LIV	PCB 187	12-May-15	1.25	2.25	UG/KG
PCB_FISH_LIV	PCB 189	12-May-15	2.04	1.78	UG/KG
PCB_FISH_LIV	PCB 194	12-May-15	11.4	3.41	UG/KG
PCB_FISH_LIV	PCB 201	12-May-15	1.69	2.76	UG/KG
PCB_FISH_LIV	PCB 206	12-May-15	0.67	1.84	UG/KG
PCB_FISH_LIV	PCB 209	12-May-15	0.97	1.33	UG/KG
PCB_FISH_LIV	PCB 28	12-May-15	1.12	1.47	UG/KG
PCB_FISH_LIV	PCB 30	12-May-15	1.8	1.46	UG/KG
PCB_FISH_LIV	PCB 37	12-May-15	0.29	2.03	UG/KG
PCB_FISH_LIV	PCB 44	12-May-15	0.77	1.88	UG/KG
PCB_FISH_LIV	PCB 49	12-May-15	0.45	1.67	UG/KG
PCB_FISH_LIV	PCB 52	12-May-15	0.77	1.66	UG/KG
PCB_FISH_LIV	PCB 65	12-May-15	1.3	1.86	UG/KG
PCB_FISH_LIV	PCB 66	12-May-15	0.87	1.86	UG/KG
PCB_FISH_LIV	PCB 70	12-May-15	0.76	2.05	UG/KG
PCB_FISH_LIV	PCB 74	12-May-15	0.72	2.11	UG/KG
PCB_FISH_LIV	PCB 77	12-May-15	1.2	3.32	UG/KG
PCB_FISH_LIV	PCB 81	12-May-15	1.01	1.91	UG/KG
PCB_FISH_LIV	PCB 87	12-May-15	1.02	1.95	UG/KG
PCB_FISH_LIV	PCB 99	12-May-15	1.71	1.54	UG/KG
PCB_FISH_MUS	PCB 101	12-May-15	0.25	0.17	UG/KG
PCB_FISH_MUS	PCB 105	12-May-15	0.19	0.23	UG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
PCB_FISH_MUS	PCB 110	12-May-15	0.38	0.21	UG/KG
PCB_FISH_MUS	PCB 114	12-May-15	0.21	0.28	UG/KG
PCB_FISH_MUS	PCB 118	12-May-15	0.31	0.26	UG/KG
PCB_FISH_MUS	PCB 119	12-May-15	0.05	0.27	UG/KG
PCB_FISH_MUS	PCB 123	12-May-15	0.25	0.3	UG/KG
PCB_FISH_MUS	PCB 126	12-May-15	0.36	0.19	UG/KG
PCB_FISH_MUS	PCB 128	12-May-15	0.29	0.23	UG/KG
PCB_FISH_MUS	PCB 138	12-May-15	0.3	0.19	UG/KG
PCB_FISH_MUS	PCB 149	12-May-15	0.3	0.19	UG/KG
PCB_FISH_MUS	PCB 151	12-May-15	0.12	0.15	UG/KG
PCB_FISH_MUS	PCB 153/168	12-May-15	0.56	0.38	UG/KG
PCB_FISH_MUS	PCB 156	12-May-15	0.23	0.23	UG/KG
PCB_FISH_MUS	PCB 157	12-May-15	0.14	0.28	UG/KG
PCB_FISH_MUS	PCB 158	12-May-15	0.13	0.26	UG/KG
PCB_FISH_MUS	PCB 167	12-May-15	0.17	0.21	UG/KG
PCB_FISH_MUS	PCB 169	12-May-15	0.23	0.14	UG/KG
PCB_FISH_MUS	PCB 170	12-May-15	0.41	0.22	UG/KG
PCB_FISH_MUS	PCB 177	12-May-15	0.49	0.2	UG/KG
PCB_FISH_MUS	PCB 18	12-May-15	0.22	0.15	UG/KG
PCB_FISH_MUS	PCB 180	12-May-15	0.42	0.29	UG/KG
PCB_FISH_MUS	PCB 183	12-May-15	0.46	0.21	UG/KG
PCB_FISH_MUS	PCB 187	12-May-15	0.47	0.23	UG/KG
PCB_FISH_MUS	PCB 189	12-May-15	0.36	0.18	UG/KG
PCB_FISH_MUS	PCB 194	12-May-15	0.61	0.34	UG/KG
PCB_FISH_MUS	PCB 201	12-May-15	0.21	0.28	UG/KG
PCB_FISH_MUS	PCB 206	12-May-15	0.14	0.18	UG/KG
PCB_FISH_MUS	PCB 209	12-May-15	0.35	0.13	UG/KG
PCB_FISH_MUS	PCB 28	12-May-15	0.18	0.15	UG/KG
PCB_FISH_MUS	PCB 30	12-May-15	0.21	0.15	UG/KG
PCB_FISH_MUS	PCB 37	12-May-15	0.15	0.2	UG/KG
PCB_FISH_MUS	PCB 44	12-May-15	0.09	0.19	UG/KG
PCB_FISH_MUS	PCB 49	12-May-15	0.16	0.17	UG/KG
PCB_FISH_MUS	PCB 52	12-May-15	0.15	0.17	UG/KG
PCB_FISH_MUS	PCB 65	12-May-15	0.22	0.19	UG/KG
PCB_FISH_MUS	PCB 66	12-May-15	0.18	0.19	UG/KG
PCB_FISH_MUS	PCB 70	12-May-15	0.19	0.2	UG/KG
PCB_FISH_MUS	PCB 74	12-May-15	0.17	0.21	UG/KG
PCB_FISH_MUS	PCB 77	12-May-15	0.31	0.33	UG/KG
PCB_FISH_MUS	PCB 81	12-May-15	0.31	0.19	UG/KG
PCB_FISH_MUS	PCB 87	12-May-15	0.23	0.19	UG/KG
PCB_FISH_MUS	PCB 99	12-May-15	0.14	0.15	UG/KG
PCB_SED	PCB 101	12-May-15	50	100	NG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
PCB_SED	PCB 105	12-May-15	37	50	NG/KG
PCB_SED	PCB 110	12-May-15	48	110	NG/KG
PCB_SED	PCB 114	12-May-15	78	130	NG/KG
PCB_SED	PCB 118	12-May-15	110	90	NG/KG
PCB_SED	PCB 119	12-May-15	59	80	NG/KG
PCB_SED	PCB 123	12-May-15	79	130	NG/KG
PCB_SED	PCB 126	12-May-15	98	70	NG/KG
PCB_SED	PCB 128	12-May-15	110	80	NG/KG
PCB_SED	PCB 138	12-May-15	39	80	NG/KG
PCB_SED	PCB 149	12-May-15	54	110	NG/KG
PCB_SED	PCB 151	12-May-15	81	80	NG/KG
PCB_SED	PCB 153/168	12-May-15	100	150	NG/KG
PCB_SED	PCB 156	12-May-15	57	90	NG/KG
PCB_SED	PCB 157	12-May-15	62	100	NG/KG
PCB_SED	PCB 158	12-May-15	57	70	NG/KG
PCB_SED	PCB 167	12-May-15	37	30	NG/KG
PCB_SED	PCB 169	12-May-15	58	90	NG/KG
PCB_SED	PCB 170	12-May-15	72	80	NG/KG
PCB_SED	PCB 177	12-May-15	37	70	NG/KG
PCB_SED	PCB 18	12-May-15	90	90	NG/KG
PCB_SED	PCB 180	12-May-15	100	80	NG/KG
PCB_SED	PCB 183	12-May-15	55	60	NG/KG
PCB_SED	PCB 187	12-May-15	96	110	NG/KG
PCB_SED	PCB 189	12-May-15	26	60	NG/KG
PCB_SED	PCB 194	12-May-15	110	80	NG/KG
PCB_SED	PCB 201	12-May-15	51	70	NG/KG
PCB_SED	PCB 206	12-May-15	68	50	NG/KG
PCB_SED	PCB 209	12-May-15	71	40	NG/KG
PCB_SED	PCB 28	12-May-15	96	60	NG/KG
PCB_SED	PCB 30	12-May-15	54	70	NG/KG
PCB_SED	PCB 37	12-May-15	47	90	NG/KG
PCB_SED	PCB 44	12-May-15	37	100	NG/KG
PCB_SED	PCB 49	12-May-15	32	70	NG/KG
PCB_SED	PCB 52	12-May-15	37	90	NG/KG
PCB_SED	PCB 65	12-May-15	53	80	NG/KG
PCB_SED	PCB 66	12-May-15	72	100	NG/KG
PCB_SED	PCB 70	12-May-15	58	60	NG/KG
PCB_SED	PCB 74	12-May-15	51	100	NG/KG
PCB_SED	PCB 77	12-May-15	110	110	NG/KG
PCB_SED	PCB 81	12-May-15	18	130	NG/KG
PCB_SED	PCB 87	12-May-15	44	200	NG/KG
PCB_SED	PCB 99	12-May-15	80	120	NG/KG

ANALYSIS CODE	ANALYTE NAME	EFFECTIVE DATE	CURRENT MDL	PAST MDL	UNITS
PHOS_ORTHO_WW	Ortho Phosphate as P	8-Jul-15	0.03	0.03	MG/L
PHOS_TOT_WW	Total Phosphate (as P)	15-Jul-15	0.11	0.11	MG/L
TURBIDITY	Turbidity	9-Jul-15	0.13	0.13	NTU

B. Report of Operator Certification

Report of Operator Certification

The following list includes all Wastewater Treatment Plant Operators working for the Public Utilities Wastewater Department at the Point Loma Wastewater Treatment Plant and their California State certification status **as of January 2015**, Name, Certification Grade, Certification Number, and expiration date are shown for each operator.

NAME	Grade	Cert #	Expiration
PTL Superintendent:			
Molas, Ernesto	V	7227	Dec, 2017
Senior Operations Supervisors:			
Benjamin, Brian	V	8764	Sept, 2016
Operations Supervisors:			
Cesar Sanchez	V	10083	June, 2017
Avila, Juan	III	28383	Dec, 2017
Moreno, Daniel	III	40707	Dec, 2016
Jacques, Richie	III	27921	Jun, 2016
Griffiths, Eric	III	28975	Dec, 2017
Plant Operators:			
Gumbiner, Jason	II	42529	Sept, 2017
Palestini, Anthony	II	8521	Dec, 2017
Pizarro, Emiliano	II	9863	Jun, 2018
Wade, Brian	II	9141	Dec, 2016
Alpas, Gilbert	III	6314	Dec, 2016
Childress, Linda	II	41589	Jan, 2017
Mohler, Victor	III	28869	Jun, 2018
Valenzuela, Sam	II	40695	Jan, 2017
Sardina, Michael	OIT		Aug, 2017
Robosa, Michael	II	42729	Apr, 2018
Langford, Craig	OIT		Feb, 2017
Ayers, Jeffrey	II	40253	May, 2018
Nathan, Trebes	II	41013	Apr, 2017

NAME	Grade	Cert #	Expiration
Magana, Dana	OIT		Oct, 2017
Carroll, Gregory	OIT		Jun, 2018
Process Control			
Nunez, Carlos	III	7626	Jun, 2016
Dornfeld, Michael	II	7678	Dec, 2016

The following list includes all Wastewater Treatment Plant Operators working for the Public Utilities Wastewater Department at the Metro Biosolids Center and their California State certification status **as of January 2015**, Name, Certification Grade, Certification Number, and expiration date are shown for each operator.

NAME	Grade	Cert #	Expiration
MBC Superintendent:			
Richard Pitchford	V	9851	June, 2017
Senior Operations Supervisors:			
Dave Marlow	V	10216	Dec, 2016
Operations Supervisors:			
John Cauzza	III	8563	June, 2018
Ralph Dugdale	III	5936	June, 2017
Dedric Evans	III	10196	June, 2018
Shannon McKiernan	III	7465	Dec, 2017
Matt Tomas	III	29044	Dec, 2017
Javier Zavala	III	9635	June, 2017
Plant Operators:			
Barry Calton	III	10178	Dec. 2018
Larren Colum	II	41857	Dec. 2016
Raymond Crowder	II	40563	Aug. 2017
James Johnson	II	29021	June, 2017
Laura Kaiser	II	28842	June, 2018
Robert Lane	Gr I OIT		Not received yet
Eric Neptune	II	28839	June, 2017
John Reeder	II	42592	Apr, 2018
Sony Reth	III	29023	June, 2018
Ben Reynolds	II	6638	Dec. 2017
Hayvert Williams	III	27959	Dec. 2017

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.
PLWTP - 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)	(p) 5210 B
Biochemical Oxygen Demand (BOD-Soluble)	Dissolved Oxygen Probe	YSI-5000 DO Meter YSI-5100 DO Meter YSI 59 DO Meter (5905 Probe)	(p) 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	Velp scientificA Buchi K-314 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	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	Perkin Elmer Claria 680 Elite-CLP 30M/0.32mm Elite-CLP2 30M/0.32mm	(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 DB-1/30m	(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	(e) 200.7
Antimony	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Arsenic	Hydride Generation / AA	Thermo iCE 3000	(c) 7062
Beryllium	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Barium	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
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
Manganese	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Mercury	Thermal / AA	Leeman Hydra Gold	(c) 7471 A and 7473
Molybdenum	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Nickel	Acid Digestion / ICP-AES	TJA IRIS	(e) 200.7
Selenium	Hydride Generation / AA	Thermo iCE 3000	(c) 7742
Silver	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.

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	Perkin Elmer Claria 680 Elite-CLP 30M/0.32mm Elite-CLP2 30M/0.32mm	(c) 8081 A
PCBs	CH2Cl2 extraction, GC-ECD	Perkin Elmer Claria 680 Elite-CLP 30M/0.32mm Elite-CLP2 30M/0.32mm	(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 Agilent-6890NGC /5973N MSD Capillary J&W DB-624	(c) 8260 B (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	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	Perkin Elmer Claria 680 Elite-CLP 30M/0.32mm Elite-CLP2 30M/0.32mm	(c) 8081 A
PCBs	CH2Cl2 extraction, GC-ECD	Perkin Elmer Claria 680 Elite-CLP 30M/0.32mm Elite-CLP2 30M/0.32mm	(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 Partica LA-950V2	(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) 7473
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	Dionex ASE-350 Agilent-7890GC/5975 MSD 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 DB-1/30m	(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
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-350 Agilent-7890GC/5975 MSD Capillary DB-5.625	(c) 3545 / 8270
Chlorinated Compounds	CH2Cl2 extraction, GC- MS/MS	Varian 3800 GC Saturn 2000 MS-Ion Trap DB-XLB/60m	(c) 3545 / 8081
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

p) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 22th Edition, 2012.

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 - 2015

CONSTITUENT	Frequency	Sample Type	Permit Required		Comments
			Influent	Effluent	
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
17461 Derian Ave Suite 100
Irvine, CA 92614
CA ELAP Certification: 2706
Telephone# (615) 726-0177

E. QA Report Summary

Summary and Overview:

The Environmental Chemistry Services (ECS) Section of the Environmental Monitoring and Technical Services (EMTS) Division, Public Utilities Department, performs most of the NPDES and other permit analytical and reporting functions, as well as process control chemical and physical testing for the City of San Diego's E.W. Bloom Point Loma Wastewater Treatment Plant (PLWWTP), North City Water Reclamation Plant (NCWRP), South Bay Water Reclamation Plant (SBWRP), and the Metro Biosolids Center (MBC). The ECS laboratory staff also performs the chemical/physical testing of ocean sediment and fish tissue samples in support of the Ocean Monitoring Program for the City of San Diego's PLWWTP Ocean Outfall and SBWRP Ocean Outfall and the International Boundary and Water Commission's International Treatment Plant outfall. Additionally, laboratory staff provides environmental testing services to various customers, both internal to the City of San Diego and to other external agencies.

The QA/QC activities of the Laboratory are comprehensive and extensive. Of the 45,101 samples received in the Laboratory in 2015, approximately 40.3% were Quality Control (QC) samples, such as blanks, check samples, and standard reference materials. A total of 126 different analyses were performed throughout the year resulting in 259,759 analytical determinations that consist of 116,919 (~43.9%) QC determinations (e.g. blanks, laboratory replicates, matrix spikes, surrogates, etc.) used to determine the accuracy, precision, and performance of each analysis and batch.

There are five (5) separate laboratory facility locations, each is independently certified by the California ELAP (Environmental Laboratory Accreditation Program) for the fields of testing required under California regulations, and one of these laboratories also owns a certification for fields of testing under the Arizona Department of Health Services (ADHS). Copies of these certifications are included as Attachment 1. These are rigorous programs involving continuing independent blind performance testing, biannual comprehensive audits, and extensive documentation requirements. California ELAP and Arizona DHS certify fields of testing for Water, Wastewater, and Hazardous Materials with methods published in the Federal Register, or specifically approved in regulation by the United States Environmental Protection Agency (USEPA). Additionally, the Laboratory performs analyses using methods for which certification does not exist, such as ocean sediment and sea water determinations. These 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. Methods of analysis developed for matrices and applications not within ELAP jurisdiction have been adapted from ELAP listed methods to which we apply generally accepted standards of performance and quality control.

Furthermore, the Treatment & Disposal 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. San Diego RWQCB). Copies of their certifications are included as Attachment 2.

The following report summarizes the QA/QC activities during 2015 and documents the 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	ADHS Cert#	ELAP Cert.#	Address	Phone #	Contribution
Alvarado Environmental* Chemistry Laboratory	CA00380	AZ0783	ELAP 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 (2011)
Frontier Analytical Laboratory			02113CA	5172 Hillsdale Circle El Dorado Hills, CA 95762	(916)934-0900	Dioxin/Furan Wastewater and Solids

* Licenced & certification as Arizona Out-of-State Laboratory

Facilities & Scope:

The Environmental Chemistry Services (ECS) comprises five geographically separated laboratories - the main laboratory facilities located at the Alvarado Joint Laboratory building in La Mesa and the four satellite chemistry laboratories located at Public Utilities treatment plants. Each maintains individual California Department of Drinking Water's Environmental Laboratory Accreditation Program (ELAP) certification in its respective Fields of Testing (FoT). The Alvarado laboratory is also certified by the state of Arizona as an out of–state laboratory. Each laboratory also has its own USEPA 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 ECS, including all of the laboratories listed above, unless specified otherwise. The main office for ECS is headquartered at the Alvarado laboratory, which also houses the most extensive laboratory facilities of the section. Along with a variety of process control and wet chemistry analyses, the main laboratory 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 to directly support operations of the co-located wastewater treatment plants.

Due to a divisional restructuring in October 2015, the North City Water Reclamation Plant Satellite Laboratory was shifted to the City of San Diego's Water Quality Chemistry Services (WQCS) Section that also consists of the Water Quality Laboratory. With this realignment, the Industrial Waste Laboratory (IWL) was similarly moved to become part of ECS. Final integration to include merging of ECS and IWL databases is anticipated in 2016. Please note that ECS QA data will include that of IWL for the reporting period of January to December 2016.

Environmental Chemistry Services performs most of the NPDES analytical monitoring requirements and other permit process control chemical and physical testing for the:

- E.W. Blom, Point Loma Wastewater Treatment Plant (PLWWTP), NPDES 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 No. CA0109045/ Order No. R9-2013-0006.

- Ocean monitoring program for the International Boundary and Water Commission's International Treatment Plant.
- Other environmental testing services for various customers, both internal to the City of San Diego and other external public agencies.

A small portion of the analyses required for permit monitoring was outsourced to laboratories certified by ELAP, specifically:

- Gross Alpha- and Beta radiations to Test America Laboratories, Inc. (Richland Division)
- Herbicides to Test America Laboratories, Inc. (Nashville Division)
- Total organic carbon (TOC) and thallium in water to the Water Quality Laboratory, City of San Diego, Public Utilities Department.
- Dioxin and Furans in solids and wastewater was out sourced to Frontier Analytical, and Test America Laboratories.

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.

Ocean Monitoring:

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. organotin analyses, sediment grain size, etc.) or adaptations of existing 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 several academic/research, public, and private laboratories under the umbrella of the Southern California Coastal Water Research Project (SCCWRP). These studies are repeated periodically as part of the Southern California Bight Regional Monitoring/Survey Project, which 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 sample was adopted as the standard reference material for QC requirement of the Southern California Bight Regional Project, and also used worldwide as a standard reference material. Additionally, 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, 2015 - December 31, 2015.[17]

The sample distribution for 2015 is significantly changed from 2014; QC sample log numbers were changed in 2015 to account for individual QC samples in batches from a single stock solution. Of the 259,759 analytical determinations made on 45,101 samples received by the Laboratory in 2015 (see table A.) 18,154 or 40.3% were Quality Control (QC) samples; 12.5% were blanks; and 27.7% were check or reference samples.

Table A. Samples	Number of Samples	Percent of total samples
Customer/Environmental samples	**26,947**	**59.75%**
Quality Control (QC) samples	**18,154**	**40.25%**
Total Samples	**45,101**	**100.00%**
QC Samples:		
Blanks:		
FIELD_BLANK	**245**	**0.54%**
REAGENT_BLANK	**41**	**0.09%**
TRIP BLANK	**4**	**0.01%**
METHOD_BLANK	**5,367**	**11.90%**
Total Blanks:	**5,657**	**12.54%**
Check samples:		
External Check samples	**5,831**	**12.93%**
Internal Check samples	**6,589**	**14.61%**
Low Level MDL Verification	**45**	**0.10%**
SRMs (Standard Reference Material)	**32**	**0.07%**
Total Check Samples:	**12,497**	**27.71%**
Total QC Samples:	**18,154**	**40.25%**

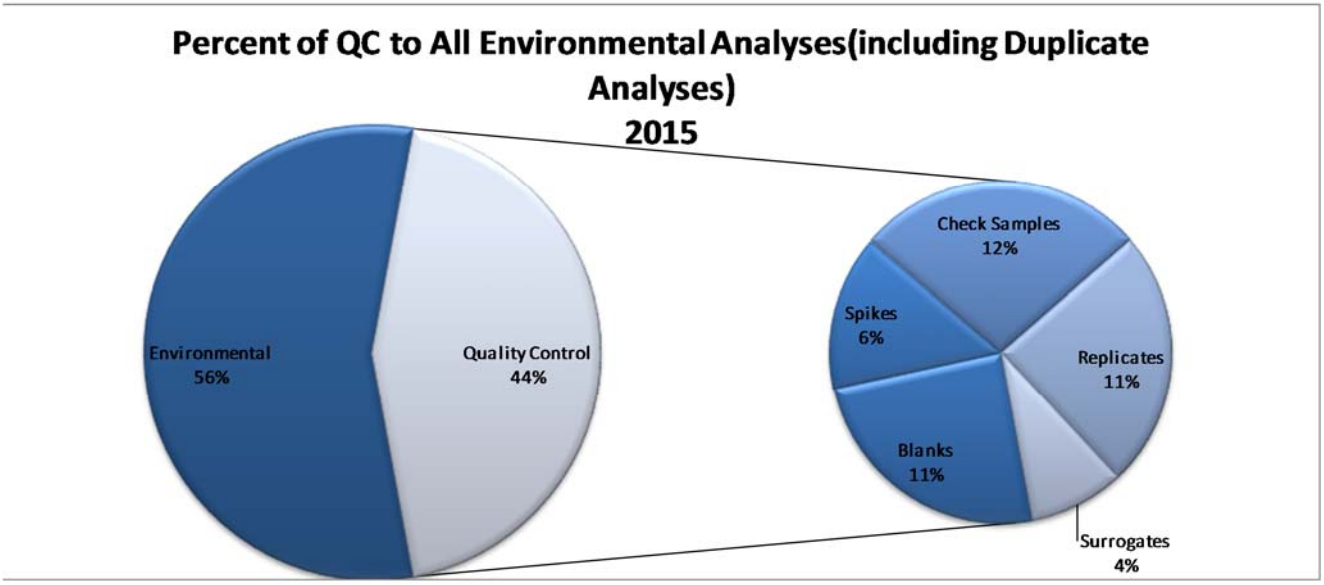
A high level of Quality Control is used for laboratory determinations. Of the 259,759 determinations, 43.9% were QC (e.g. blanks, lab replicates, matrix spikes, surrogates, etc.). If calculated for the 259,759 customer determinations only, the percentage increases to 45.0%.

A small percentage (2.81%) of the total analytical batches did not meet internal QA review due to a variety of reasons - e.g. unsuccessful calibration, unacceptable QC performance, outside acceptance criteria, etc. Samples from analytical determinations that were rejected are either reanalyzed, the data is not reported, or data is 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 07, 2016 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, 2015 and December 31, 2015. This data summary is comprehensive and includes all laboratory analyses work for all customers, projects, and programs unless otherwise indicated.

Table A.2. Analyses (results) - 2015

	Number	Percent of total	
Total number of analytes/results determined:	**266,368**	NA	
Total results not complete [2]:	16,024	6.0%	
No. of results for Customer/Environmental Samples [1,3]:	**259,759**	**97.5%**	
Total number of rejected results:	6,609	2.70%	
No. of results for blanks [3]:	28,606	10.7%	11.0%
No. of results for matrix spikes [3]:	17,179	6.4%	6.6%
No. of results for Check samples [3]:	32,007	12.0%	12.3%
No. of results for Replicates [3]:	28,539	10.7%	11.0%
No. of results for surrogates [3]:	10,588	4.0%	4.1%
Total QC analyses run [3]:	**116,919**	**43.9%**	**45.0%**



1 – matrix spike, replicates, surrogates are also part of the total for Customer/Environmental samples.
2 – as of March 07, 2016.
3 – percent of QC samples calculated from grand total of 259,759.

NOTE: Analysis, for metrics purposes used in this report, generally refers to a parameter determined in each sample in a batch. Determination of several metals in a sample (e.g. iron, nickel, lead) would equal as three (3) analyses in the expression of totals such as those in the Analyses table on the preceding page. This means of calculation that has been used for many years with batch and method, is a 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:	15,407	95.73%
Total number of rejected analytical batches:	235	1.46%
Incomplete batches (as of March 7, 2016):	452	2.81%

Outside laboratories

A small number of permit required analyses are contracted out, as summarized below.

Results from sub-contracted labs.		
Laboratory	Analytes	Total in-house Analytes
Frontier Analytical	2210	0.90%
San Diego Water Quality Laboratory	187	0.08%
Test America	2523	1.03%
Total outside results:	4,920	2.01%

QA Plan:

A copy of our Laboratory's current Quality Assurance Plan is included as Attachment 3. The Quality Assurance Plan was updated in March 2016.

Performance Testing (PT) Studies for 2015:

The Environmental Chemistry Services Laboratories participated in required ELAP and USEPA PT studies throughout the year. Each of the geographically separated laboratory facilities participated individually (as required by ELAP) in 19 PT studies for 2015. PT studies were purchased from ERA and Phenova and were successfully completed. When results submitted were determined to be outside of study acceptance limits, the laboratory reviewed its internal protocols, modified procedures as 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 2015 are summarized in the following tables.

Alvarado Environmental Chemistry Laboratory: See attachment 6 for copy of reports.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
HW-0115	1	1	100%
HW-0415	160	150	93.8%
HW-0715	47	47	100%
HW-1015	11	11	100%
WP-0115	26	26	100%
WP-0215	2	2	100%
WP-0315	70	65	92.9%
WP-0415	64	64	100%
WP-0715	1	1	100%
WP-0815	1	1	100%
WP-0915	2	2	100%
WP-1015	12	11	91.7%
Total analytes:	**397**	**381**	**96%**

North City Chemistry Laboratory: See attachment 7 for copy of reports.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0415	14	14	100%
Total analytes:	**14**	**14**	**100%**

Metro Biosolids Center (MBC) Chemistry Laboratory: See attachment 8 for copy of reports.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0315	5	5	100%
Total analytes:	**5**	**5**	**100%**

Pt. Loma Environmental Chemistry Laboratory: See attachment 9 for copy of reports.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0315	12	12	100%
WP-0415	1	1	100%
Total analytes:	**13**	**13**	**100%**

South Bay Wastewater Chemistry Laboratory: See attachment 10 for copy of reports.

PT Study	Number of Analytes	Number of Acceptable results	Success Rate (%)
WP-0115	18	18	100%
WP-0315	1	1	100%
WS-222	1	1	100%
Total analytes:	**20**	**20**	**100%**

F. Staff contributing to this Report

Staff Contributing to this Report in 2015

Initials	ID	First Name	Last Name	Signature
EB	EBALUYOT	Elvie	Baluyot	
TB	TBAO	Tan	Bao	
VB	VBASILAN	Virginia	Basilan	
EB	EBLANCO	Enrique	Blanco	
IB	IBOLIO	Irma	Bolio	
BGB	BBOWMAN	Brent	Bowman	
TC	TJCANNON	Tim	Cannon	
LC	LCARR	Laura	Carr	
JC	JCASTRO	Jose	Castro	
JCM	JCAZARES	Jacqueline	Cazares-Medina	
NC	NCOGLAN	Nancy	Coglan	
SC	SCORIA	Salvador	Coria	
MC	MCORONEL	Maricela	Coronel	
JCM	JCZAJKOWSKI	Jerry	Czajkowski	
KD	KDANG	Ken	Dang	
MM	MMDAOUD	Mike	Daoud	
BD	BDONAHUE	Brad	Donahue	
BLD	BDOWELL	Brenda	Dowell	
ACD	ADURAN	Angelica	Duran	
LBE	LEDWARDS	Lauren	Edwards	
AJE	AJENTERA	Angela	Entera	
JTF	JFINDLEY	Jeff	Findley	
EFITZ	EFITZGERALD	Erica	Fitzgerald	
KG	KGENZ	Kenneth	Genz	
NG	NGRIMAUD	Nicole	Grimaud	
JGB	JDGUERRERO	Jose	Guerrero	
RG	RGUERRERO	Ricardo	Guerrero	
EG	EGWYNN	Eric	Gwynn	
MH	MHETU	Marcel	Hetu	
RJ	RJARDINE	Ron	Jardine	
WLJ	WLJOHNSON	Wendy	Johnson	
LK	LKING	Lee	King	
VK	VKOZAREV	Vesselka	Kozarev	
EL	ELANEZ	Estela	Lanez	
CL	CLANZL	Caylyn	Lanzl	
ITL	ILAWLESS	IAN	Lawless	
LL	LLI	Lin	Li	
AM	AMARTINEZ	Armando	Martinez	
FM	FMARTINEZ	Fernando	Martinez	
CGM	CONNIEM	Connie	Mata	
JM	JMCANALLY	Jeff	McAnally	
OM	OMIRANDASAND	Oscar	Miranda Sandoval	
LN	LNANNINGA	Leslie	Nanninga	
JN	JNIETO	Jesus	Nieto	
MN	MNOLLER	Maria	Noller	
LP	LPANTOJA	Lorena	Pantoja	
PP	PPARRA	Paola	Parra	
CP	CPAYAN	Ciara	Payan	
LP	LPRZYBYLO	Leonard	Przybylo	
CAQ	CQUINATA	Corinna	Quinata	
YXR	YREYNOSOMAR	Yolanda	Reynoso Martin	
RR	RROMERO	Raul	Romero	
RR	RRONSAIRO	Rowena	Ronsairo	
RS	RSANDOVAL	Robert	Sandoval	
VS	VSANTIBANEZ	Victoria	Santibanez	
GS	GSCHLIMME	Greg	Schlimme	
MS	MSHEFFIELD	Marie	Sheffield	
MS	MSOHN	Minsung	Sohn	
MRS	MSTEWART	Michael	Stewart	
OT	OTANJA	Olga	Tanja	
SV	SVALENZUELA	Sandra	Valenzuela	
JW	JWEBB	Julie	Webb	

Figure 1. Chemistry Laboratory Organization Chart.

Public Utilities Department
Environmental Monitoring and Technical Services Division
Environmental Chemistry Services

Deputy Director
Peter Vroom, Ph.D.

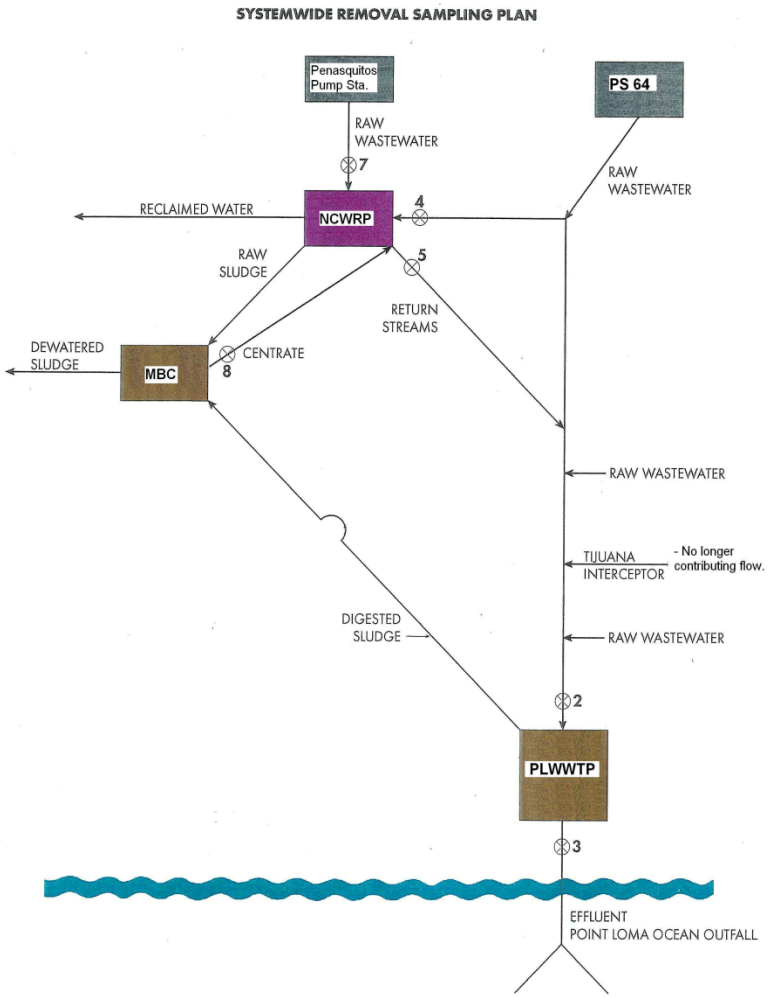
***Senior Chemist** 1.00*
Brent Bowman

Pesticides Group	***QA/DM Group***	***Metals Group***	***Pt. Loma WWTP / MBC Group***	***South Bay WRP Group***	***GC/MS Group***	***GC/MS Industrial Waste Group***	***Inorganic Industrial Waste Group***
Associate Chemist 1.00 SALVADOR CORIA	*Associate Chemist 1.00* LEE KING	*Associate Chemist 1.00* SANDRA VALENZUELA	*Associate Chemist 1.00* VESSELKA KOZAREV	*Associate Chemist 1.00* ROBERT SANDOVAL	*Associate Chemist 1.00* JEFF MCANALLY	*Associate Chemist 1.00* IAN LAWLESS	*Associate Chemist 1.00* RON JARDINE
Assistant Chemists: 5.00 JACQUELINE CAZARES- MEDINA BRADLEY DONAHUE BRENDA DOWELL LAUREN EDWARDS Vacant	*Assistant Chemists: 4.00* ARMANDO MARTINEZ FERNANDO MARTINEZ MARIA NOLLER JULIE WEBB	*Assistant Chemists: 6.00* JERRY CZAJKOWSKI KEN DANG JESUS NIETO LEONARD PRZYBYLO MARIE SHEFFIELD Vacant	*Assistant Chemists: 2.00* ENRIQUE BLANCO VIRGINIA BASILAN	*Assistant Chemists: 1.00* GREG SCHLIMME	*Assistant Chemists: 3.00* ESTELA LANEZ MARCEL HETU CONNIE MATA	*Assistant Chemists: 3.00* YOLANDA REYNOSO-MARTIN RAUL ROMERO Vacant	*Assistant Chemists: 3.00* RICARDO GUERRERO VICTORIA SANTIBANEZ IRMA BOLIO
Laboratory Technician: 2.00 MARICELA CORONEL PAOLA PARRA	*Laboratory Technician: 2.00* ERIC GWYNN CIARA PAYAN	*Laboratory Technician: 1.00* ERICA FITZGERALD	*Laboratory Technician: 5.00* TIM CANNON NICOLE GRIMAUD ROWENA RONSAIRO OSCAR MIRANDA MINSUNG SOHN	*Laboratory Technician: 2.00* JOSE CASTRO ANGELICA DURAN	*Laboratory Technician: 1.00* ANGELA ENTERA	*Laboratory Technician: 1.00* JOSE GUERRERO	*Laboratory Technician: 1.00* MIKE DAOUD
Intern:	*Word Processing Operator: 1.00* CORINNA QUINATA	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.

Equation 1.

$$\text{System-wide \%Removal} = \frac{(\Sigma\text{System Influents}) - (\Sigma\text{Return Streams}) - (\Sigma\text{Outfall Discharge})}{\Sigma\text{System Influents} - \Sigma\text{Return Streams}} \times 100\%$$

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

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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