REGIONAL
WATER QUALITY
CONTROL PLANT

2501 EMBARCADERO WAY · PALO ALTO · CA 94303
TEL: 650.329.2122 FAX: 650.494.3531
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February 28, 2019

Bill Johnson, Chief
NPDES Wastewater and Enforcement Division
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Mr. Johnson:

Enclosed you will find the Palo Alto Regional Water Quality Control Plant's (RWQCP) 2018 Pretreatment Annual Report. RWQCP's Watershed Protection Group continues to run an aggressive pretreatment and source control program with the goal of reducing pollutant loads to the storm drains, creeks, sanitary sewer, the treatment plant and the Bay.

Please call James Stuart on my behalf at 650-329-2292 if you should have any questions.

Sincerely,

Karin North
Watershed Protection Manager
Environmental Services Division

cc: Brad Eggleston – City of Palo Alto, Public Works Department
Phil Bobel – City of Palo Alto, Environmental Services Division
Aida Fairman – City of Los Altos
Jaymae Wentker – City of Mountain View
Akin Okupe – East Palo Alto Sanitary District
Trinh Pham – State Water Resources Control Board
R9Pretreatment@epa.gov
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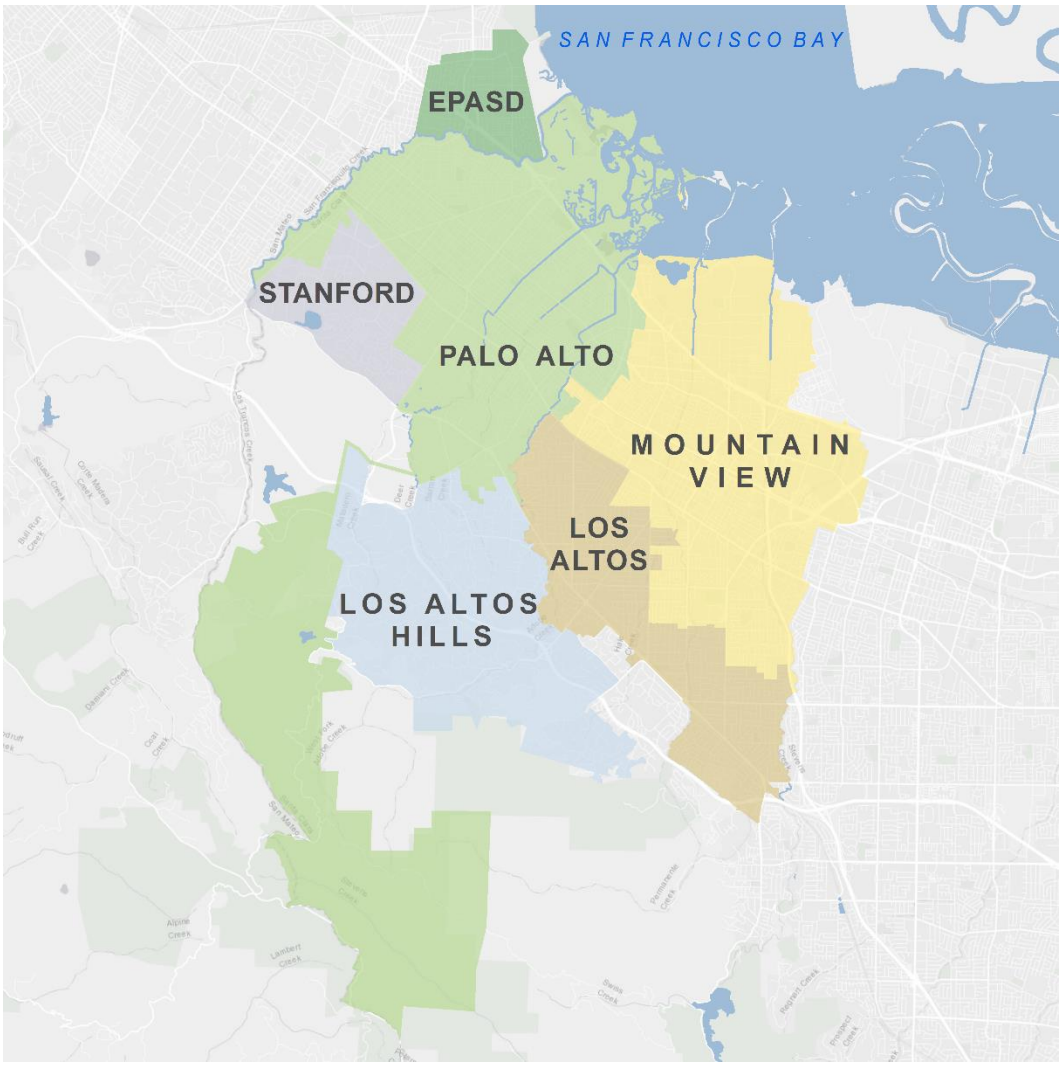
2018

PRETREATMENT PROGRAM ANNUAL REPORT



Operated by the City of Palo Alto for the East Palo Alto Sanitary District, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
2018 PRETREATMENT PROGRAM ANNUAL REPORT

Report Date:	February 28, 2019
Period Covered by This Report:	January 1, 2018 to December 31, 2018
Period Covered by Previous Report:	January 1, 2017 to December 31, 2017
NPDES Permit Holder:	City of Palo Alto
Name of Wastewater Treatment Plant:	Palo Alto Regional Water Quality Control Plant
NPDES Permit Number:	CA0037834

Person to contact concerning information contained in this report:

James Stuart
Manager, Environmental Control Programs
2501 Embarcadero Way
Palo Alto, CA 94303
(650) 329-2292

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, 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.

2/25/2019
Date

Signature of Official

JAMES ALLEN
Manager, Palo Alto Regional Water Quality Control Plant

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PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
2018 PRETREATMENT PROGRAM ANNUAL REPORT
TABLE OF CONTENTS

APPENDICES PAGE

B. INTRODUCTION

B.1 Background

The Palo Alto Regional Water Quality Control Plant (RWQCP or Plant) provides advanced secondary treatment of domestic, commercial, and industrial wastewater collected from the cities of Los Altos, Palo Alto, and Mountain View; the Town of Los Altos Hills; the East Palo Alto Sanitary District; and the unincorporated area of the Stanford University campus (Partner Agencies or Partners). The RWQCP service area covers approximately 37,800 acres and the service area population is approximately 236,000. Wastewater treatment processes at the Plant, as detailed below, include screening and grit removal, primary sedimentation, biological treatment (fixed film reactors and activated sludge), secondary clarification, filtration (dual media filter), and disinfection. The hydraulic capacity of all treatment units is 80 MGD, except for the fixed film reactors and the dual media filters which is 40 MGD. The Plant's design flow rate is 39 MGD, determined by the process capacity of the fixed film reactors and the dual media filters. The Plant discharges under NPDES Permit No. CA0037834, Order No. R2-2014-0024, adopted by the San Francisco Bay Regional Water Quality Control Board on June 11, 2014.

In 2018, the Plant's average daily influent flow was 17.36 MGD. Of the wastewater flow to the RWQCP, about 60 percent is estimated to come from domestic sources, 30 percent from commercial businesses and institutions, and ten percent from industrial sources (approximately three percent from permitted industrial dischargers).

The City of Palo Alto wastewater collection system consists of approximately 200 miles of pipe, ranging from 4 inches to 72 inches in diameter, and one small lift station. Outside the City of Palo Alto, wastewater is conveyed to the Plant by several satellite collection systems owned and operated by the East Palo Alto Sanitary District, Stanford University, and the cities of Mountain View and Los Altos, and the Town of Los Altos Hills. Each Partner Agency is responsible for an ongoing program of maintenance and capital improvements for sewer lines and pump stations within its respective jurisdiction to ensure adequate capacity and reliability. The responsibilities include managing overflows, controlling inflow and infiltration, and implementing collection system maintenance.

The communities served by the RWQCP are composed primarily of low-density residential housing. Several industrial areas and commercial districts are contained within the service area. The majority of the service area has been fully developed and major increases in population or industrial discharges to the Plant are not anticipated. Recent years have seen a trend towards high density infill and the conversion of under-utilized light industrial and commercial properties into residential and mixed commercial residential properties. A shift continues toward office space, software development, and research and development facilities with few remaining larger industrial facilities.

B.2 Contributing Jurisdiction Agreements

RWQCP has jurisdictional agreements with its Partners that delineate Pretreatment Program (Program) responsibilities. The City of Palo Alto administers the Program for the entire service

area, except in the City of Mountain View. City of Mountain View staff administers most Program elements in the City of Mountain View with the exception of industrial user and vehicle service facility monitoring, which is performed by RWQCP staff. The roles and responsibilities for each Partner are described in the following Partner Agreements:

- Contract No. C237 Between the City of Palo Alto and the East Palo Alto Sanitary District, March 11, 1940, as amended;

- Contract No. C869 Between the City of Palo Alto and the Board of Trustees of the Leland Stanford Junior University, November 30, 1956, as amended;

- Agreement No. 2876 Between the City of Palo Alto and the Town of Los Altos Hills, March 18, 1968, as amended; and

- Contract No. C2963 Between the City of Palo Alto, the City of Mountain View and the City of Los Altos, October 10, 1968, as amended.

B.3 2017 PCI Summary

On June 22, 2017, Tetra Tech, Inc. (Tetra Tech) performed a Pretreatment Compliance Inspection (PCI) of the Program. The PCI included an in-depth interview with City of Palo Alto and City of Mountain View staff regarding details of the Program, followed by SIU site visits. Tetra Tech also performed an extensive file review of Pretreatment Program documents. RWQCP received the final PCI summary report and transmittal letter from the San Francisco Bay Regional Water Quality Control Board (Water Board) on February 20, 2018. The Report includes two primary requirements and four recommendations. RWQCP submitted its response to the Report to Water Board on April 26, 2018. A summary of the requirements and recommendations included in the report, as well as RWQCP's responses to each, can be found in Appendix 1.

C. DEFINITIONS

The following words and phrases, whenever used in Chapter 16.09 of the Palo Alto Municipal Code (Chapter), shall be as defined herein. Words, terms and phrases used in this Chapter not otherwise defined shall be as defined or interpreted or used in the Pretreatment Regulations. Terminology for analytical testing shall be that contained in "Guidelines Establishing Test Procedures for the Analysis of Pollutants," published at Title 40 CFR, Part 136.

"Annual average concentration" means the average concentration of a substance measured over any twelve-month period of time.

"Authorized representative" means an authorized or duly authorized representative as defined below:

(a) If the discharger is a corporation:

(1) The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(b) If the discharger is a partnership or sole proprietorship: a general partner or proprietor, respectively.

(c) If the discharger is a federal, state, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

(d) The individuals described in paragraphs (a) through (c), above, may designate a duly authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates, or with overall responsibility for environmental matters for the organization, and the written authorization is submitted to the superintendent.

"Average concentration" of a substance means the total daily discharge weight of the substance divided by the total daily wastewater volume at the point of discharge.

"Berm" means a ridge, lip or other raised barrier to the flow of liquid which is not rendered ineffective by the liquid and is sufficiently high to contain anticipated fluid amounts, or which causes sufficient grade to prevent migration of anticipated fluid amounts.

"Best Management Practices" or "BMPs" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to implement the prohibitions in this chapter. BMPs include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal or drainage from materials storage.

"Biochemical oxygen demand" or "BOD" means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures.

"Categorical discharger" shall mean any discharger subject to categorical pretreatment standards.

"Categorical pretreatment standard" means any regulation containing pollutant discharge limits promulgated by EPA that apply to a specific category of dischargers and that appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

"Cesspool" means a lined or partially lined underground pit into which raw sanitary sewage is discharged.

"City" means City of Palo Alto.

"Collection system" means the pipes, junction boxes, channels and other conveyance apparatus used to move storm water or sewage.

"Cooling system blowdown" means water routinely discharged from a cooling water system to maintain efficient operation of the system.

"Cooling water" means water which is used to cool fluids or equipment in commercial or industrial processes or air conditioning systems.

"Cooling water system" means the pipes, heat exchangers and other appurtenances used to convey cooling water in cooling towers, direct contact cooling systems and similar fixed cooling systems. Multiple units of a cooling water system serving a building or piece of equipment are considered as one system if the cooling water distribution system units are physically connected.

"Contaminated groundwater" means water found beneath the earth's surface which does not meet state or federal standards for drinking water supplies or other specified beneficial uses.

"Contaminated water" means water that does not meet state or federal standards for discharge to navigable waters.

"County" shall mean the County of Santa Clara.

"Cycles of concentration" means the flow rate of water added to a cooling tower water system divided by the flow rate of water discharged from the cooling tower.

"Discharge" means the introduction of any pollutant or of any industrial, commercial or domestic waste into the sanitary sewer system or storm drain system.

"Discharger" means any person or entity who has the potential to or who discharges, causes, or permits the discharge of any pollutant or of any industrial, commercial or domestic waste into the sanitary sewer system or storm drain system.

"Domestic waste" means the liquid and waterborne wastes derived from the ordinary living processes, free from industrial wastes and of such character as to permit satisfactory disposal, without special treatment, into the sewer system.

"Enforcement response plan" or "ERP" means the document describing the guidelines for identifying violations of and enforcing specific local limits; pretreatment standards and requirements; and the requirements of this chapter.

"EPA" means the United States Environmental Protection Agency.

"Exceptional waste" means that subset of industrial waste specified in Section 16.09.080(c)(2).

"Fail-safe valve" means a gravity, spring loaded or electrically driven valve that is normally closed. The valve can be opened by continuously applying pressure or depressing a switch mechanism that automatically closes the valve when not in use or depressed.

"Grease" means, and includes, fats, oils, waxes or other related constituents. Grease may be of vegetable or animal origin, including butter, lard, margarine, vegetable fats and oils, and fats in meats, cereals, seeds, nuts and certain fruits. Grease may also be of mineral origin, including kerosene, lubricating oil, and road oil. Grease in the sanitary sewer system is generally present as, but need not be, a floatable solid, a liquid, a colloid, an emulsion, or in a solution.

"Hazardous material" means any material so designated by Title 17 of this code [Palo Alto Municipal Code].

"Hazardous waste" means a material designated as a hazardous waste by either state or federal regulations.

"Industrial waste" means the waste or wastewater from any production, manufacturing or processing operation of whatever nature including institutional and commercial. "Industrial waste" shall not include domestic waste. "Industrial waste" shall include contaminated water from construction operations, contaminated water from erosion of disturbed land, and contaminated water from irrigation runoff.

"Interference" means a discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the plant, its treatment processes or operations, or its sludge processes, use or disposal, or exceeds the design capacity of the sanitary sewer system.

"Loading dock" means that area of a facility intended for the loading and unloading of trucks, plus an additional radius of ten feet.

"Machine shop" means a fixed facility which cuts, grinds, polishes, deburrs, or machines metal parts but does not conduct metal finishing as that term is defined by the EPA in 40 CFR part 433.

"Metal fabrication facility" means a fixed facility that forms, welds and assembles metal pieces, but does not conduct metal finishing as that term is defined by the EPA in 40 CFR part 433.

"New source" means a new or modified building, structure, facility or installation as defined in EPA 40 CFR part 403.3(m) from which there is or may be a discharge subject to proposed or existing pretreatment standards.

"Oil-water separator" means a receptacle designed and constructed to intercept, separate, and prevent the passage of oils and sediments into the sanitary sewer system.

"Once-through cooling system" means a cooling system through which water passes through only once before discharge to a drain, including laboratory bench top cooling systems.

"Organic solvent" means any solvent which contains carbon in its molecular structure.

"Pass-through" means a discharge that exits the plant into a water of the United States in quantities or concentrations that, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the plant's NPDES permit (including an increase in the magnitude or duration of a violation).

"Person" means any individual, partnership, firm, association, corporation, or public agency.

"Plant" means the Palo Alto Regional Water Quality Control Plant.

"Point of discharge" means the point or points designated as such in the permit. Where no designation is made it shall mean the point where the private sewer joins a public sewer.

"Pretreatment requirement" means any substantive or procedural requirement related to pretreatment imposed on a discharger, other than a pretreatment standard.

"Pretreatment standards" means prohibited discharge standards, categorical pretreatment standards and local limits.

"Pretreatment system" means a treatment system at an industrial or commercial facility that is designed to reduce the amount of pollutants, eliminate pollutants, or alter the nature of the pollutant properties in the waste water prior to discharge to the sanitary sewer system.

"Root control chemicals" means any chemical introduced into pipes in order to inhibit or kill roots in the pipe.

"Sampling location" means an access box, valve, spigot or similar structure from which samples representative of an industrial wastewater discharge from a particular process or processes, piece of equipment, activity, building, or facility are collected.

"Sanitary sewage" or "sewage" means water-carried wastes from residences, business buildings, institutions, and industrial establishments, excluding ground, surface and storm waters, subsurface drainage and also excluding industrial waste.

"Sanitary sewer overflow" or "SSO" means any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from the sanitary sewer system. SSOs include:

(a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

(b) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

(c) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the sanitary sewer system.

"Secondary containment" means and shall have the meaning specified by the hazardous materials storage ordinance (Title 17, Palo Alto Municipal Code).

"Seepage pit" means a device comprised of one or more pits extending into porous strata, lined with open-jointed masonry or similar walls, capped and provided with a means of access such as a manhole cover and into which wastewater disposal system effluent is discharged.

"Sewage treatment plant" means any arrangement of devices and structures used for treating sanitary sewage.

"Sewer" means a pipe or conduit for carrying sewage.

"Sewer system" or "sanitary sewer system" means the collection system, all sewers, treatment plants and other facilities owned or operated by the city for carrying, collecting, storing, treating, reclaiming and disposing of sanitary sewage and industrial wastes.

"Significant industrial user" (SIU) means, except as provided in (c) and (d):

(a) A discharger subject to categorical pretreatment standards; or

(b) A discharger that:

(1) Discharges an average of 25,000 gpd or more of process wastewater to the sanitary sewer system (excluding sanitary, noncontact cooling and boiler blowdown wastewater);

(2) Contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the sanitary sewer system; or

(3) Is designated as such by the superintendent on the basis that it has a reasonable potential for adversely affecting the sanitary sewer system's operation or for violating any pretreatment standard or requirement.

(c) The superintendent may determine that a discharger subject to categorical pretreatment standards is a non-significant categorical industrial user (non-SCIU) rather than a significant industrial user on a finding that the discharger never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the pretreatment standard) and the following conditions are met:

(1) The discharger, prior to superintendent's finding, has consistently complied with all applicable categorical pretreatment standards and requirements;

(2) The discharger annually submits the certification statement required in 16.09.135(a)(3), together with any additional information necessary to support the certification statement; and

(3) The discharger never discharges any untreated concentrated wastewater.

(d) Upon a finding that a discharger meeting the criteria in subsection (b) of this definition has no reasonable potential for adversely affecting the sanitary sewer system's operation or for violating any pretreatment standard or requirement, the superintendent may at any time, on its own initiative or in response to a petition received from a discharger, determine that such discharger should not be considered a significant industrial user.

"Significant noncompliance" means a violation or series of violations by a discharger of one or more criteria set forth in 40 CFR 403.8(f)(2)(viii).

"Simple payback period" means the number of years required to allow the dollar value of an investment in water pollution control to be exceeded by cost savings resulting from the investment.

"Single toxic organic" or "STO" shall mean the highest quantifiable value for any individual toxic organic compound.

"Slug discharge" means any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge of wastewater, material or waste of high volume or pollutant concentration which violates any of the specific prohibitions listed in 40 CFR 403.5(b) or Sections 16.09.045 or 16.09.050 or that has a reasonable potential to cause interference or pass-through or in any other way violate the plant's regulations, local limits, or sanitary sewer system requirements or NPDES permit conditions.

"Storm drains" or "storm drain system" means the system of pipes, gutters, surface conveyance and channels used to collect and convey storm water.

"Superintendent" means the manager of the Palo Alto Regional Water Quality Control Plant, his or her designee or such other person as may be designated by the city manager.

"Total toxic organics" or "TTO" shall mean the sum of all quantifiable toxic organic compound concentrations greater than 0.010 mg/liter.

"Toxic organic compound" shall mean any organic pollutant contained in 40 CFR Part 433.11(e).

"Unpolluted water" means water to which no constituent has been added, either intentionally or accidentally, that would render such water unacceptable for disposal to the storm drain system or natural drainage or directly to surface waters.

"Wastewater" the liquid and water-carried wastes generated by a domestic, commercial and or industrial facility, whether treated or untreated, discharged into or permitted to enter the sewer system.

"Wet sanding" means the use of water and sandpaper for the removal of paint.

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D. DISCUSSION OF UPSET, INTERFERENCE AND PASS THROUGH

In 2018, there were no discharges from nondomestic users that were known or suspected of causing RWQCP upset, interference or pass through.

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E. INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING RESULTS

E.1 Sampling Procedures and Analysis

The RWQCP complied with the pretreatment monitoring requirements for influent, effluent, and biosolids listed in Attachment E – Monitoring and Reporting Program (MRP) – of NPDES No. CA0037834, Order No. R2-2014-0024, and monitored for the parameters using the required sampling and test methods listed in the pretreatment table of the MRP. Sampling procedures, sample dechlorination, sample compositing, and data validation (applicable quality assurance/quality control) were performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. Sampling procedures including methods of sample dechlorination, sample compositing, and data validation, are available upon request.

E.2 Tabular Summary of Compounds Detected

A tabular summary of the Volatile Organic Compounds (VOC) and Semi-Volatile Organic Compounds (BNA) detected for the monitoring data generated during 2018 can be found on pages E – 2 through E – 11 of this report. Discussion surrounding VOC and BNA compounds that were detected in plant influent, effluent, and biosolids during 2018 can be found in Section E.3 of this report. Influent and effluent monitoring data for metals and cyanide can be found in Section E.5 of this report.

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
ORGANIC VOLATILE POLLUTANT REPORT FOR WINTER 2018
Contract Lab/Caltest Analytical- EPA 624 (GCMS)

	2018 WET SEASON		INFLUENT
	Sample Date		2/6/2018
	Analysis Date		2/9/2018
	Daily Average Flow (mgd)		18.3
	Monthly Average Flow (mgd)		18.3
PRIORITY POLLUTANT VOLATILES	MDL (ug/L)	RL (ug/L)	(ug/L)
Acetone	35	250	**DNQ 191**
Acrolein	8.5	100	*
Acrylonitrile	9.0	50	*
Benzene	0.90	12	*
Bromodichloromethane	0.80	12	*
Bromoform	0.75	12	*
Bromomethane (Methyl Bromide)	1.5	12	*
Carbon tetrachloride	0.80	12	*
Chlorobenzene	0.90	12	*
Chloroethane (Ethyl Chloride)	1.9	12	*
2-Chloroethyl vinyl ether	1.4	12	*
Chloroform	0.95	12	**DNQ 5.6**
Chloromethane (Methyl Chloride)	1.5	12	*
Dibromochloromethane	0.85	12	*
1,2-Dichlorobenzene	1.4	12	*
1,3-Dichlorobenzene	0.90	12	*
1,4-Dichlorobenzene	0.90	12	*
Dichlorodifluoromethane (F-12)	1.5	12	*
1,1-Dichloroethane	0.95	12	*
1,2-Dichloroethane (EDC)	0.90	12	*
1,1-Dichloroethene	1.0	12	*
cis-1,2-Dichloroethene	1.0	12	*
trans-1,2-Dichloroethene	1.1	12	*
1,2-Dichloropropane	0.90	12	*
cis-1,3-Dichloropropene	1.0	12	*
trans-1,3-Dichloropropene	0.80	12	*
Dichlorotrifluoroethane (F123)	1.5	12	*
Ethylbenzene	1.3	12	*
Methyl tert-butyl ether (MTBE)	0.75	12	*
Methylene chloride	2.0	12	*

WINTER 2018 EPA 624 Caltest Analytical Data (continued)

	2018 WET SEASON		INFLUENT
PRIORITY POLLUTANT VOLATILES	MDL (ug/L)	RL (ug/L)	ug/L
Styrene	0.95	12	*
1,1,2,2-Tetrachloroethane	0.75	12	*
Tetrachloroethene (PCE)	0.95	12	*
Toluene	0.95	12	*
1,2,4 Trichlorobenzene	1.2	12	*
1,1,2-Trichloroethane	0.80	12	*
1,1,1-Trichloroethane (TCA)	0.95	12	*
Trichloroethene (TCE)	1.0	12	*
Trichlorofluoromethane (F-11)	1.4	12	*
Trichlorotrifluorethane (F113)	1.8	12	*
Vinyl chloride	1.2	12	*
Xylenes, total	2.4	12	*
NON-PRIORITY POLLUTANTS			
Volatile (open scan)			ug/L
Dimethyl sulfide (TIC)			**14**
Quality Control			
(Internal standards)		**Range**	**% Recovery**
4-Bromofluorobenzene	(SS)	70-130	97
Dibromofluoromethane	(SS)	70-130	115
1,2-Dichloroethane-d4	(SS)	70-130	113
Toluene-d8	(SS)	70-130	123

NOTES:
* = the mass spectral signal for this compound was not detected at or above the Reporting Limit.
DNQ = data not quantifiable result between MDL and RL

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
SEMIVOLATILE ORGANIC POLLUTANT REPORT FOR WINTER 2018
Contract Lab/Caltest Analytical- EPA 625

	2018 WET SEASON		INFLUENT
	Sample Date		2/6/2018
	Analysis Date		2/17/2018
	Daily Average Flow (mgd)		18.3
	Monthly Average Flow (mgd)		18.3
PRIORITY POLLUTANT SEMIVOLATILES	MDL (ug/L)	RL (ug/L)	(ug/L)
Acenapthene	0.1	25	*
Acenapthylene	0.1	25	*
Anthracene	0.05	25	*
Benzidine	20	50	*
Benzo(a)anthracene	0.1	25	*
Benzo(a)pyrene	0.1	25	*
Benzo(b)fluoranthene	0.1	25	*
Benzo(g,h,i)perylene	0.1	25	*
Benzo(k)fluoranthene	0.1	25	*
Benzyl butyl phthalate	2.5	25	*
4-Bromophenyl phenyl ether	2.5	25	*
bis(2-Chloroethoxy) methane	2.5	25	*
bis(2-Chloroethyl) ether	2.0	25	*
bis(2-Chloroisopropyl) ether	2.0	25	*
4-Chloro-3-methylphenol	2.5	25	*
2-Chloronaphthalene	2.0	25	*
2-Chlorophenol	2.0	25	*
4-Chlorophenyl phenyl ether	2.5	25	*
Chrysene	0.1	25	*
Dibenzo(a,h)anthracene	0.1	25	*
3,3'-Dichlorobenzidine	20	25	*
2,4-Dichlorophenol	2.0	25	*
Diethylphthalate	2.5	25	*
2,4-Dimethylphenol	2.0	25	*
Dimethylphthalate	2.5	25	*
Di-n-butylphthalate	2.0	25	*
2,4-Dinitrophenol	1.0	25	*
2,4-Dinitrotoluene	2.0	25	*
2,6-Dinitrotoluene	2.0	25	*

WINTER 2018 EPA 625 Caltest Analytical Data (continued)

	2018 WET SEASON		INFLUENT
PRIORITY POLLUTANT SEMIVOLATILES	MDL (ug/L)	RL (ug/L)	ug/L
Di-n-octylphthalate	2.0	25	**DNQ 5.4**
1,2-Diphenylhydrazine/Azobenzene	2.5	25	*
bis(2-Ethylhexyl)phthalate	2.5	25	**DNQ 7.4**
Fluoranthene	0.1	25	*
Fluorene	0.05	25	*
Hexachlorobenzene	2.0	25	*
Hexachlorobutadiene	2.0	25	*
Hexachlorocyclo pentadiene	1.5	25	*
Hexachloroethane	2.0	25	*
Indeno(1,2,3-cd)pyrene	0.1	25	*
Isophorone	2.5	25	*
2-Methyl-4,6-dinitrophenol	1.5	25	*
Napthalene	0.1	25	*
Nitrobenzene	2.5	25	*
2-Nitrophenol	2.0	25	*
4-Nitrophenol	2.5	25	*
N-Nitrosodimethylamine	1.5	25	*
N-Nitroso-di-n-propylamine	2.5	25	*
N-Nitrosodiphenylamine	1.5	25	*
Pentachlorophenol	2.0	25	*
Phenanthrene	0.1	25	*
Phenol	1.5	25	**DNQ 11**
Pyrene	0.1	25	*
1,2,4-Trichlorobenzene	2.0	25	*
2,4,6-Trichlorophenol	2.5	25	*
NON-PRIORITY POLLUTANTS			INFLUENT
SemiVolatile (open scan)			ug/L
Cholesterol [TIC]			19000
Cyclohexadecane [TIC]			180
3,4- Octadecene, 7-methyl [TIC]			220
7-Hexadecyne [TIC]			280
Cholestanol [TIC]			12000
Hexadecanoic acid [TIC]			1200
Oleic acid [TIC]			8800
Dodecanoic acid [TIC]			300
1-Nonadecene [TIC]			170
Tetradecanoic acid [TIC]			630
Octadecanoic acid [TIC]			3200

WINTER 2018 EPA 625 Caltest Analytical Data (continued)

Quality Control			
Surrogates		**Range**	**% Recovery**
2-Fluorobiphenyl	(SS)	1-130	65
2-Fluorophenol	(SS)	1-130	29
Nitrobenzene-d5	(SS)	1-130	62
Phenol-d6	(SS)	1-130	23
Terphenyl-d14	(SS)	1-200	121
2,4,6-Tribromophenol	(SS)	1-200	81

NOTES:
(1) * = mass spectral signal for this compound was not detected in this sample.
(2) DNQ reflects estimated analytical result value detected below the R.L. and above the MDL; equivalent to the J flag.
(3) E – indicates an estimated analytical result value.

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
ORGANIC VOLATILE POLLUTANT REPORT FOR SUMMER 2018
Contract Lab/Caltest Analytical- EPA 624 (GCMS)

	2018 DRY SEASON		INFLUENT
	Sample Date		8/14/2018
	Analysis Date		8/17/2018
	Daily Average Flow (mgd)		17.5
	Monthly Average Flow (mgd)		17.2
PRIORITY POLLUTANT VOLATILES	MDL (ug/L)	RL (ug/L)	(ug/L)
Acetone	35	50	**151**
Acrolein	8.5	10	*
Acrylonitrile	9.0	10	*
Benzene	0.90	2.5	*
Bromodichloromethane	0.80	2.5	*
Bromoform	0.75	2.5	*
Bromomethane (Methyl Bromide)	1.5	2.5	*
Carbon tetrachloride	0.80	2.5	*
Chlorobenzene	0.90	2.5	*
Chloroethane (Ethyl Chloride)	1.9	2.5	*
2-Chloroethyl vinyl ether	1.4	5.0	*
Chloroform	0.95	2.5	**3.7**
Chloromethane (Methyl Chloride)	1.5	2.5	*
Dibromochloromethane	0.85	2.5	*
1,2-Dichlorobenzene	1.4	2.5	*
1,3-Dichlorobenzene	0.90	2.5	*
1,4-Dichlorobenzene	0.90	2.5	*
Dichlorodifluoromethane (F-12)	1.5	2.5	*
1,1-Dichloroethane	0.95	2.5	*
1,2-Dichloroethane (EDC)	0.90	2.5	*
1,1-Dichloroethene	1.0	2.5	*
cis-1,2-Dichloroethene	1.0	2.5	*
trans-1,2-Dichloroethene	1.1	2.5	*
1,2-Dichloropropane	0.90	2.5	*
cis-1,3-Dichloropropene	1.0	2.5	*
trans-1,3-Dichloropropene	0.80	2.5	*
Dichlorotrifluoroethane (F123)	1.5	2.5	*
Ethylbenzene	1.3	2.5	*
Methyl tert-butyl ether(MTBE)	0.75	2.5	*
Methylene chloride	2.0	2.5	*

SUMMER 2018 EPA 624 Caltest Analytical Data (continued)

	2018 DRY SEASON		INFLUENT
PRIORITY POLLUTANT VOLATILES	MDL (ug/L)	RL (ug/L)	ug/L
Styrene	0.95	2.5	*
1,1,2,2-Tetrachloroethane	0.75	2.5	*
Tetrachloroethene (PCE)	0.95	2.5	*
Toluene	0.95	2.5	**DNQ 1.7**
1,2,4 Trichlorobenzene	1.2	2.5	*
1,1,2-Trichloroethane	0.80	2.5	*
1,1,1-Trichloroethane (TCA)	0.95	2.5	*
Trichloroethene (TCE)	1.0	2.5	**DNQ 1.2**
Trichlorofluoromethane (F-11)	1.4	2.5	*
Trichlorotrifluorethane (F113)	1.8	2.5	*
Vinyl chloride	1.2	2.5	*
Xylenes, total	2.4	2.5	*
NON-PRIORITY POLLUTANTS			
Volatile (open scan)			ug/L
No TICs Detected			*
Quality Control			
(Internal standards)		**Range**	**% Recovery**
4-Bromofluorobenzene	(SS)	70-130	95
Dibromofluoromethane	(SS)	70-130	97
1,2-Dichloroethane-d4	(SS)	70-130	87
Toluene-d8	(SS)	70-130	86

NOTES:
* = the mass spectral signal for this compound was not detected at or above the Reporting Limit.
DNQ = data not quantifiable result between MDL and RL

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT
SEMIVOLATILE ORGANIC POLLUTANT REPORT FOR SUMMER 2018
Contract Lab/Caltest Analytical- EPA 625

	2018 DRY SEASON		INFLUENT
	Sample Date		8/14/2018
	Analysis Date		9/8/2018
	Daily Average Flow (mgd)		17.5
	Monthly Average Flow (mgd)		17.2
PRIORITY POLLUTANT SEMIVOLATILES	MDL (ug/L)	RL (ug/L)	(ug/L)
Acenapthene	0.2	5.0	*
Acenapthylene	0.2	5.0	*
Anthracene	0.1	5.0	*
Benzidine	40	50	*
Benzo(a)anthracene	0.2	5.0	*
Benzo(a)pyrene	0.2	5.0	*
Benzo(b)fluoranthene	0.2	5.0	*
Benzo(g,h,i)perylene	0.2	5.0	*
Benzo(k)fluoranthene	0.2	5.0	*
Benzyl butyl phthalate	5.0	20	*
4-Bromophenyl phenyl ether	5.0	20	*
bis(2-Chloroethoxy) methane	5.0	10	*
bis(2-Chloroethyl) ether	4.0	10	*
bis(2-Chloroisopropyl) ether	4.0	10	*
4-Chloro-3-methylphenol	5.0	10	*
2-Chloronaphthalene	4.0	10	*
2-Chlorophenol	4.0	20	*
4-Chlorophenyl phenyl ether	5.0	20	*
Chrysene	0.2	5.0	*
Dibenzo(a,h)anthracene	0.2	5.0	*
3,3'-Dichlorobenzidine	50	50	*
2,4-Dichlorophenol	4.0	10	*
Diethylphthalate	5.0	10	*
2,4-Dimethylphenol	4.0	10	*
Dimethylphthalate	5.0	10	*
Di-n-butylphthalate	4.0	10	*
2,4-Dinitrophenol	2.0	20	*
2,4-Dinitrotoluene	4.0	10	*
2,6-Dinitrotoluene	4.0	10	*

SUMMER 2018 EPA 625 Caltest Analytical Data (continued)

	2018 DRY SEASON		INFLUENT
PRIORITY POLLUTANT SEMIVOLATILES	MDL (ug/L)	RL (ug/L)	ug/L
Di-n-octylphthalate	4.0	10	*
1,2-Diphenylhydrazine/Azobenzene	5.0	10	*
bis(2-Ethylhexyl)phthalate	5.0	10	**12**
Fluoranthene	0.2	5	*
Fluorene	0.1	5	*
Hexachlorobenzene	4.0	10	*
Hexachlorobutadiene	4.0	10	*
Hexachlorocyclo pentadiene	3.0	10	*
Hexachloroethane	4.0	10	*
Indeno(1,2,3-cd)pyrene	0.2	5	*
Isophorone	5.0	10	*
2-Methyl-4,6-dinitrophenol	3.0	20	*
Napthalene	0.2	5	*
Nitrobenzene	5.0	10	*
2-Nitrophenol	4.0	20	*
4-Nitrophenol	5.0	10	*
N-Nitrosodimethylamine	3.0	10	*
N-Nitroso-di-n-propylamine	5.0	10	*
N-Nitrosodiphenylamine	3.0	10	*
Pentachlorophenol	4.0	10	*
Phenanthrene	0.2	5	*
Phenol	3.0	10	**13**
Pyrene	0.2	5	*
1,2,4-Trichlorobenzene	4.0	10	*
2,4,6-Trichlorophenol	5.0	20	*
NON-PRIORITY POLLUTANTS			
SemiVolatile (open scan)			ug/L
Cholesterol [TIC]			13000
Hexadecanoic acid [TIC]			9400
Dodecanoic acid [TIC]			690
Tetradecanoic acid [TIC]			930
Octadecanoic acid [TIC]			6300
1-Nonadecanol [TIC]			280
9-Octadecenoic acid(z)-, octadecyl ester [TIC]			3100
Heptadecanoic acid [TIC]			160
11,14,-Eicosadienoic acid, methyl ester [TIC]			600
1-Hexadecanol [TIC]			310
Caffeine [TIC]			260
1-Tridecanol [TIC]			240

SUMMER 2018 EPA 625 Caltest Analytical Data (continued)

Quality Control			
Surrogates		**Range**	**% Recovery**
2-Fluorobiphenyl	(SS)	1-130	113
2-Fluorophenol	(SS)	1-130	37
Nitrobenzene-d5	(SS)	1-130	85
Phenol-d6	(SS)	1-130	27
Terphenyl-d14	(SS)	1-200	217
2,4,6-Tribromophenol	(SS)	1-200	127

NOTES:
(1) * = mass spectral signal for this compound was not detected in this sample.
(2) DNQ reflects estimated analytical result value detected below the R.L. and above the MDL; equivalent to the J flag.
(3) E – indicates an estimated analytical result value.
(4) Internal Std Terphenyl-d14 was slightly out of acceptance criteria, potentially biasing the reported analytical result high. Sample was reanalyzed at a dilution and the result confirmed.

E.3 Influent, Effluent, and Biosolids Monitoring Results

In 2018, seven organic priority pollutants were detected in the Plant influent. No organic priority pollutants were detected in sufficient concentration to upset, interfere, or pass through the treatment plant. During 2018, there were no organic priority pollutants requiring pretreatment monitoring that exceeded NPDES effluent limitations.

The following organic priority pollutants were detected in the Plant influent during 2018:

Acetone is an organic solvent with wide ranging uses including, but not limited to: laboratory glassware rinsing, medical and cosmetic use, and other domestic uses such as paint removal and vapor polishing of 3D-printed structures.

Bis(2-ethylhexyl) phthalate is a common plasticizer for polymeric materials (plastic pipe). Bis(2-ethylhexyl) phthalate is used primarily as a plasticizer during polyvinyl chloride and polymer production, and is likely released into wastewater during water contact with plastic materials.

Chloroform is likely to enter the environment with its use as an industrial solvent, extractant, and cleaning agent, as well as from indirect production in the chlorination of drinking water, wastewater, and cooling water. Artificial sources of chloroform include automobile exhaust, extractants, solvents, dry cleaning agents, fumigants, and synthetic rubber. If released into water, chloroform will be primarily lost by evaporation into the atmosphere.

Di-n-octylphthalate is a plasticizer that can be found in medical tubing, wire and cables, carpetback coating, floor tile, cosmetics, pesticides, and adhesives.

Phenol is a common and important industrial chemical that enters wastewater during its use in resins, plastics, and adhesives. It is frequently found in wastewater from other commercial sources.

Toluene is used as a general purpose solvent, a fuel additive, and a chemical manufacturing constituent.

Trichloroethene (TCE) is used as a solvent to remove grease from metal during the manufacture of a variety of products, including building/furniture materials, fixtures, fabricated metals, and electric/electronic equipment. TCE is also used as a paint stripper, adhesive solvent, an ingredient in paints and varnishes, and in the manufacture of other chemicals.

E.4 Incinerator Ash Quarterly Sampling Results

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT

INCINERATOR ASH REPORT 2018

Sludge dewatering method: Belt filter presses followed by incineration

JAN 2018 INCINERATOR QUARTERLY ASH REPORT								
Analytes	**TTLC**				**STLC**			
	Sample Collection Dates: 11/05/2017-01/27/2018; Composited 02/05/2018							
	Prepare Date:		02/12-21/2018		Prepare Date:		02/15-21/2018	
	Analysis Date:		02/10-27/2018		Analysis Date:		02/20-23/2018	
	TTLC Max. Limit (mg/kg)	RL/MDL (mg/kg)	mg/kg (Dry Weight)	Method	STLC Max. Limit (mg/L)	RL/MDL (mg/L)	mg/L	Method
Aluminum	NA	2000/810	**21000**	A				
Antimony	500	0.081/0.030	**7.9**	A	15			
Arsenic	500	1.0/0.30	**6.2**	A	5			
Barium	10,000	1.0/0.51	**900**	A	100	0.05/0.020	**19**	B
Beryllium	75	0.081/0.030	**0.53**	A	0.75			
Boron	NA	2.00/2.00	**140**	A				
Cadmium	100	0.081/0.010	**1.5**	A	1			
Chromium	2,500	1.0/0.51	**79**	A	560			
Cobalt	8,000	0.081/0.005	**19**	A	80			
Copper	2,500	20.0/3.80	**1,900**	A	25	0.80/0.40	**40**	B
Lead	1,000	0.081/0.040	**53**	A	5	0.05/0.020	**0.25**	B
Lithium	NA	0.4/0.2	**16**	A				
Manganese	NA	20/15	**4600**	A				
Mercury	20	0.020/0.00080	**DNQ 0.0010**	D	0.2	.00005/.00004	**0.00036**	C
Molybdenum	3,500	0.081/0.030	**38**	A	350			
Nickel	2,000	0.081/0.030	**83**	A	20			
Selenium	100	0.400/0.100	**6.8**	A	1			
Silver	500	0.081/0.004	**12**	A	5	0.03/0.003	**ND**	B
Sodium	NA	20/10	**10,000**	A				
Strontium	NA	1.0/0.51	**350**	A				
Thallium	700	0.081/0.012	**DNQ 0.050**	A	7			
Tin	NA	2.5/1.0	**97**	A				
Titanium	NA	20/7.6	**3,000**	A				
Vanadium	2,400	2.0/0.4	**77**	A	24			
Zinc	5,000	40/20	**2,900**	A	250			
Cyanide	---	0.08/0.080	**0.39**	E				

Total Solids in Ash	**Method**	**Analysis Date**
100.0%	F	02/09/2018

Methods [A-F] Caltest Analytical
A = SW846 – 3050B/6020
B = SW846 – 3010/6020
C = SW846 – 7470A
D = SW846 – 7471A
E = SW846 – 9012A
F = SM2540G-11

ND = Not detected at or above the detection limit.
DNQ = Data not quantified, result between MDL and RL.
NOTE = (1) All data in the table are based on Quarterly Composites made up of ash from 3 month period in 2018.

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT

INCINERATOR ASH REPORT 2018

Sludge dewatering method: Belt filter presses followed by incineration

APR 2018 INCINERATOR QUARTERLY ASH REPORT								
Analytes	**TTLC**				**STLC**			
	Sample Collection Dates: 02/05/2018-04/23/2018; Composited 05/04/2018							
	Prepare Date:		05/14-15/2018		Prepare Date:		05/15-16/2018	
	Analysis Date:		05/16-23/2018		Analysis Date:		05/16-22/2018	
	TTLC Max. Limit (mg/kg)	RL/MDL (mg/kg)	mg/kg (Dry Weight)	Method	STLC Max. Limit (mg/L)	RL/MDL (mg/L)	mg/L	Method
Antimony	500	0.080/0.030	**8.4**	A	15			
Arsenic	500	1.0/0.30	**5.3**	A	5			
Barium	10,000	1.0/0.51	**850**	A	100	0.05/0.020	**8.9**	B
Beryllium	75	0.080/0.030	**0.36**	A	0.75			
Cadmium	100	0.080/0.010	**2.5**	A	1			
Chromium	2,500	1.0/0.51	**82**	A	560			
Cobalt	8,000	0.080/0.0051	**19**	A	80			
Copper	2,500	20/3.8	**2,200**	A	25	0.80/0.40	**45**	B
Lead	1,000	0.080/0.040	**61**	A	5	0.05/0.020	**0.29**	B
Mercury	20	0.020/0.0020	**ND**	D	0.2	0.0005/0.0004	**ND**	C
Molybdenum	3,500	0.16/0.061	**37**	A	350			
Nickel	2,000	0.16/0.061	**85**	A	20			
Selenium	100	0.40/0.10	**8.5**	A	1			
Silver	500	0.080/0.0040	**14**	A	5	0.03/0.003	**ND**	B
Vanadium	2,400	2.0/0.40	**79**	A	24			
Zinc	5,000	40/20	**3,200**	A	250			

Total Solids in Ash	**Method**	**Analysis Date**
100.0%	F	05/8/2018

ND = Not detected at or above the detection limit.
DNQ = Data not quantified, result between MDL and RL.
NOTE = (1) All data in the table are based on Quarterly Composites made up of ash from 3 month period in 2018.

Methods [A-F] Caltest Analytical
A = SW846 – 3050B/6020
B = SW846 – 3010/6020
C = SW846 – 7470A
D = SW846 – 7471A
E = SW846 – 9012A
F = SM2540G-11

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT

INCINERATOR ASH REPORT 2018

Sludge dewatering method: Belt filter presses followed by incineration

AUG 2018 INCINERATOR QUARTERLY ASH REPORT								
Analytes	**TTLC**				**STLC**			
	Sample Collection Dates: 05/01/2018-07/23/2018; Composited 08/07/2018							
	Prepare Date:		08/16-18/2018		Prepare Date:		08/24/2018-09/10/2018	
	Analysis Date:		08/17-24/2018		Analysis Date:		09/04-11/2018	
	TTLC Max. Limit (mg/kg)	RL/MDL (mg/kg)	mg/kg (Dry Weight)	Method	STLC Max. Limit (mg/L)	RL/MDL (mg/L)	mg/L	Method
Antimony	500	0.50/0.080	**0.54**	A	15			
Arsenic	500	0.50/0.17	**22**	A	5			
Barium	10,000	0.25/0.054	**300**	A	100	0.05/0.020	**10**	B
Beryllium	75	0.25/0.041	**DNQ 0.06**	A	0.75			
Cadmium	100	0.25/0.048	**0.57**	A	1			
Chromium	2,500	0.75/0.25	**43**	A	560			
Cobalt	8,000	0.25/0.049	**1.4**	A	80			
Copper	2,500	0.5/0.099	**130**	A	25	0.80/0.40	**54**	B
Lead	1,000	0.25/0.12	**5.3**	A	5	0.05/0.020	**0.37**	B
Mercury	20	0.020/0.0020	**ND**	D	0.2	0.0005/0.0004	**ND**	C
Molybdenum	3,500	0.25/0.045	**3.2**	A	350			
Nickel	2,000	0.50/0.11	**9.2**	A	20			
Selenium	100	0.50/0.11	**3.9**	A	1			
Silver	500	0.25/0.051	**0.88**	A	5	0.03/0.0030	**ND**	B
Thallium	700	0.25/0.049	**ND**	A	7			
Vanadium	2,400	0.8/0.27	**27**	A	24			
Zinc	5,000	2.5/0.50	**340**	A	250			
Cyanide	---	0.16/0.16	**3.5**	E	---			B

Total Solids in Ash	**Method**	**Analysis Date**
100.0%	F	08/17/2018

ND = Not detected at or above the detection limit.
DNQ = Data not quantified, result between MDL and RL.
NOTE = (1) All data in the table are based on Quarterly Composites made up of ash from 3 month period in 2018.
NR = Not required this reporting period.

Methods [A-F] Caltest Analytical
A = SW846 – 3050B/6020
B = SW846 – 3010/6020
C = SW846 – 7470A
D = SW846 – 7471A
E = SW846 – 9012A
F = SM2540G-11

PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT

INCINERATOR ASH REPORT 2018

Sludge dewatering method: Belt filter presses followed by incineration

NOV 2018 INCINERATOR QUARTERLY ASH REPORT								
Analytes	**TTLC**				**STLC**			
	Sample Collection Dates: 08/01/2018-10/28/2018; Composited 11/07/2018							
	Prepare Date:		11/15/2018		Prepare Date:		11/21-23/2018	
	Analysis Date:		11/17-20/2018		Analysis Date:		11/23-24/2018	
	TTLC Max. Limit (mg/kg)	RL/MDL (mg/kg)	mg/kg (Dry Weight)	Method	STLC Max. Limit (mg/L)	RL/MDL (mg/L)	mg/L	Method
Antimony	500	0.080/0.030	**12**	A	15			
Arsenic	500	1.0/0.3	**3.6**	A	5			
Barium	10,000	0.5/0.5	**860**	A	100	0.05/0.020	**8.4**	B
Beryllium	75	0.080/0.030	**0.39**	A	0.75			
Cadmium	100	0.080/0.010	**1.4**	A	1			
Chromium	2,500	1.0/0.50	**78**	A	560			
Cobalt	8,000	0.080/0.005	**17**	A	80			
Copper	2,500	10/3.8	**2,300**	A	25	1.0/0.50	**53**	B
Lead	1,000	0.080/0.040	**67**	A	5	0.05/0.020	**0.33**	B
Mercury	20	0.020/0.0020	**DNQ 0.0042**	D	0.2	0.0005/0.0004	**0.00056**	C
Molybdenum	3,500	0.5/0.4	**40**	A	350			
Nickel	2,000	0.080/0.075	**83**	A	20			
Selenium	100	0.40/0.10	**8.8**	A	1			
Silver	500	0.080/0.004	**15**	A	5	0.03/0.0030	**DNQ 0.003**	B
Thallium	700	0.080/0.012	**0.11**	A	7			
Vanadium	2,400	2.0/0.40	**64**	A	24			
Zinc	5,000	20/20	**3,600**	A	250			
Cyanide	---	0.16/0.16	**NR**	E				

Total Solids in Ash	**Method**	**Analysis Date**
100.0%	F	11/13/2018

ND = Not detected at or above the detection limit.
DNQ = Data not quantified, result between MDL and RL.
NOTE = (1) All data in the table are based on Quarterly Composites made up of ash from 3 month period in 2018.
NR = Not required this reporting period.

Methods [A-F] Caltest Analytical
A = SW846 – 3050B/6020
B = SW846 – 3010/6020
C = SW846 – 7470A
D = SW846 – 7471A
E = SW846 – 9012A
F = SM2540G-11

E.5 2018 Influent and Effluent Metals Monitoring Data

In 2018, the Plant's influent mass loading for total metals decreased by 15%, to 12,133 lb/yr, when compared against the influent mass loading from the previous year. This is the lowest annual influent mass loading the Plant has reported (dating back to 1992).The data suggest a trend of decreasing flow and metals received by the Plant. The continued trend of low metal concentrations in the Plant influent suggests that the Program's outreach efforts and control programs remain effective and sufficient.

In 2018, the Plant's influent mercury mass loading dropped by 64% to 4 lb/yr. City staff inspected 35 dental offices in 2018 and confirmed that all of the required best management practices were being implemented. Further discussion can be found in the 2019 Clean Bay Plan.

In 2018, the Plant's effluent mass loading for total metals increased by 11%, to 4,596 lb/yr, when compared against the effluent mass loading from the previous year. This increase does not suggest reduction of the Plant's operations or treatment capabilities, as the 2018 effluent mass loading for total metals is below the average for the past five years (2013-2017), and within 5% of the average for the past ten years (2008-2017).

In 2018, influent cyanide concentrations were generally reported as DNQ values with an RL of 3 µg/L and MDL of 0.90 µg/L. The mean influent cyanide concentration was 2.18 µg/L, median 1.65 µg/L, and standard deviation of 1.75 µg/L. On October 9, 2018, the Pretreatment Program was notified that an influent cyanide sample result of 6.7 µg/L was obtained from a sample collected on September 9, 2018. The September 9, 2018 influent cyanide sample result of 6.7 µg/L exceeded the 5 µg/L action level specified in the RWQCP's Cyanide Sampling and Response Plan. In response to this exceedance, RWQCP staff reviewed all cyanide sampling results (POTW and IU) for 2018, but nothing unusual was noted. RWQCP staff reached out to the three metal finishing facilities located within the service area which utilize cyanide processes: Communications & Power Industries, LLC; Hammon Plating Corporation; and Space Systems/Loral, LLC; but none were identified as the potential cause of the elevated result. RWQCP staff also reviewed the Septic Hauler logs kept at the Plant, but no potential source of cyanide was identified. Nonetheless, in 2018 the Plant's annual cyanide influent load decreased by 45% when compared to 2017. It was determined that the high influent cyanide result, which occurred on a Sunday, was not caused by an IU discharge. Effluent cyanide loading decreased by 9.6% in 2018, and no adverse effects resulted from the singular increased influent cyanide result. Removing the singular elevated influent cyanide result from the annual influent cyanide data yields an adjusted mean influent cyanide concentration of 1.77 µg/L, median 1.60 µg/L, and standard deviation 1.06 µg/L.

Table E.5-1
Influent Metals Loadings

Pollutant	Loading (lb/yr)				% Change 2018 vs. 2017	% Change 2018 vs. 5 yr. Avg.
	2014	2017	2018	5 yr. Avg.[1]		
Arsenic	86.05	71.80	58.10	75.00	-19.08	-22.54
Cadmium	16.59	14.29	10.43	17.75	-27.01	-41.25
Chromium	125.21	142.81	106.93	124.04	-25.12	-13.79
Copper	4,246.65	4,344.10	3,331.30	4,065.18	-23.31	-18.05
Lead	164.20	139.39	114.56	153.50	-17.81	-25.37
Mercury	8.89	11.46	4.12	9.78	-64.01	-57.82
Nickel	415.97	462.12	330.67	428.12	-28.44	-22.76
Silver	36.98	37.96	21.03	34.82	-44.60	-39.60
Selenium	97.84	131.24	80.69	104.86	-38.52	-23.05
Zinc	9,068.17	8,967.00	8,075.00	9,347.24	-9.95	-13.61
Total Metals	14,266.55	14,322.17	12,132.83	14,360.28	-15.29	-15.51
Flow (MGD)[2]	19.22	21.35	18.00	19.38	-15.69	-7.11

[1]2014 – 2018
[2]Monthly average sample day flow (08:00 a.m. – 07:59 a.m.)

Table E.5-2
Effluent Metals Loadings

Pollutant	Loading (lb/yr)				% Change 2018 vs. 2017	% Change 2018 vs. 5 yr. Avg.
	2014	2017	2018	5 yr. Avg.[1]		
Arsenic	74.69	66.00	60.00	68.66	-9.09	-12.61
Cadmium	8.31	6.90	5.74	7.44	-16.81	-22.81
Chromium	20.62	22.74	22.20	21.48	-2.37	3.36
Copper	634.58	587.93	576.61	588.98	-1.93	-2.10
Lead	11.63	10.24	18.71	12.79	82.71	46.23
Mercury	0.08	0.10	0.07	0.09	-33.37	-19.01
Nickel	279.28	308.98	259.09	271.59	-16.15	-4.60
Silver	2.96	1.68	1.24	1.91	-26.19	-35.18
Selenium	80.95	109.96	85.37	88.14	-22.36	-3.15
Zinc	3,478.30	3,022.00	3,567.30	3,567.82	18.04	-0.01
Total Metals	4,591.40	4,136.53	4,596.33	4,628.90	11.12	-0.70
Flow (MGD)[2]	19.21	21.92	20.37	20.58	-7.07	-1.03

[1]2014 – 2018
[2]Monthly average sample day flow (08:00 a.m. – 07:59 a.m.)

Table E.5-3
Summary of Influent Metals and Cyanide 1992 – 2018

ppb

Year	Flow (MGD)	As	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Se	Zn	CN
1992	21.20	2.70	0.80	6.00	87.00	15.00	0.60	7.80	8.80	1.60	189.00	105.00
1993	27.70	6.40	0.50	3.80	86.10	10.90	0.40	12.40	6.10	1.80	176.00	15.40
1994	22.40	1.70	0.50	4.00	64.00	14.50	0.40	10.80	4.00	1.30	175.00	16.80
1995	26.00	1.50	0.00	3.30	69.00	7.30	0.30	7.40	2.80	1.80	161.00	13.60
1996	25.60	1.20	0.30	2.90	52.00	8.10	0.30	5.70	2.70	0.60	153.70	7.00
1997	26.10	1.10	0.30	2.10	52.00	4.70	0.30	5.60	2.80	0.70	162.10	*
1998	28.50	1.40	0.30	5.01	44.00	4.20	0.20	6.90	2.50	1.10	156.50	1.20
1999	25.70	1.20	0.40	3.90	55.00	5.70	0.20	9.90	4.10	0.70	171.70	6.80
2000	27.71	1.20	0.50	3.90	64.00	6.40	0.24	8.10	3.00	0.80	174.70	3.00
2001	25.79	1.19	0.39	5.75	51.13	3.94	0.27	9.92	2.54	0.76	145.00	3.05
2002	24.95	1.06	0.35	5.15	49.58	3.65	0.31	6.80	2.47	0.63	142.34	4.45
2003	24.90	1.00	0.30	3.90	51.00	3.30	0.27	5.80	2.30	0.80	135.00	2.90
2004	24.05	1.10	0.30	4.20	56.00	4.40	0.36	6.00	2.20	0.70	146.80	5.30
2005	25.90	1.10	0.30	4.50	66.00	5.10	0.23	7.20	1.80	0.80	137.80	4.20
2006	26.90	1.10	0.30	3.80	61.00	3.80	0.20	6.00	1.70	0.80	131.00	4.50
2007	23.11	1.10	0.34	4.76	58.10	3.53	0.20	6.44	1.25	0.85	142.81	1.70
2008	22.26	1.01	0.27	4.24	70.61	2.98	0.20	5.91	0.97	1.37	153.11	1.73
2009	21.80	1.26	0.33	2.70	61.16	2.76	0.17	5.64	0.76	1.92	140.97	1.80
2010	22.30	1.25	0.32	2.50	69.71	3.08	0.22	6.76	0.72	1.94	128.84	1.74
2011	22.33	1.17	0.27	2.07	67.17	2.75	0.17	7.14	0.59	1.63	132.76	1.19
2012	21.74	1.30	0.30	2.06	64.60	3.20	0.16	7.58	0.63	1.60	137.00	0.98
2013	21.00	1.30	0.28	1.89	60.73	2.63	0.15	6.70	0.59	1.73	139.25	1.47
2014	19.22	1.45	0.28	2.10	72.71	2.79	0.15	7.01	0.62	1.62	154.47	1.30
2015	18.93	1.49	0.51	2.14	73.12	3.01	0.21	8.58	0.75	1.66	174.76	1.80
2016	19.39	1.21	0.31	2.01	69.85	2.92	0.21	7.26	0.59	1.97	177.38	2.46
2017	21.35	1.08	0.21	2.13	69.20	2.14	0.08	6.93	0.59	1.57	140.00	1.60
2018	**18.00**	**1.01**	**0.18**	**1.96**	**60.90**	**2.10**	**0.08**	**6.04**	**0.39**	**1.47**	**148.00**	**1.60**

lb/yr

Year	Flow (MGD)	As	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Se	Zn	CN
1992	21.20	174.00	49.00	385.00	5,546.00	944.00	37.00	497.00	574.00	105.00	12,012.00	6,675.00
1993	27.70	485.00	35.00	154.00	6,266.00	792.00	32.00	897.00	452.00	139.00	12,781.00	693.00
1994	22.40	112.00	32.70	274.00	4,354.00	985.00	28.30	725.00	275.00	92.00	11,905.00	1,186.00
1995	26.00	120.00	0.00	263.00	5,420.00	597.00	27.80	589.00	224.00	142.00	12,545.00	1,056.00
1996	25.60	96.70	23.90	223.80	4,020.20	620.70	22.80	439.40	211.00	49.90	11,835.60	655.10
1997	26.10	86.90	25.30	156.40	4,170.70	367.70	20.10	444.00	228.50	59.10	12,761.30	*
1998	28.50	129.00	29.00	452.00	3,748.00	369.00	17.00	595.00	214.00	110.00	13,298.00	301.00
1999	25.70	93.10	34.50	307.40	4,264.70	446.90	15.70	773.70	317.50	55.40	13,417.00	531.40
2000	27.71	99.20	40.30	326.60	5,289.00	535.00	20.50	687.00	251.00	68.10	14,656.00	254.00
2001	25.79	92.86	30.44	449.20	4,008.28	309.36	20.82	777.32	199.45	59.45	11,336.48	239.29
2002	24.95	80.34	26.22	392.63	3,686.00	275.38	23.50	516.78	186.31	47.52	10,737.66	336.22
2003	24.90	75.90	25.30	297.70	3,990.50	247.60	20.12	440.90	169.40	60.50	10,241.70	219.70
2004	24.05	80.70	22.90	315.30	4,300.10	319.40	26.41	447.60	164.40	54.40	10,787.50	389.20
2005	25.90	83.50	26.40	353.10	5,214.10	399.40	17.96	563.50	139.40	65.80	10,835.40	326.40
2006	26.90	90.30	27.90	307.30	4,857.10	315.70	16.14	495.80	137.40	70.60	10,567.90	361.40
2007	23.11	77.45	24.17	338.14	4,125.19	250.88	14.23	456.90	88.97	59.77	10,110.66	119.54
2008	22.26	69.01	18.55	287.68	4,782.28	201.65	13.79	401.67	66.19	92.99	10,353.63	117.64
2009	21.80	83.05	21.95	181.02	4,052.09	183.32	11.53	375.98	50.52	128.52	9,372.25	100.21
2010	22.30	85.99	21.53	171.75	4,750.12	209.17	14.50	465.63	48.72	138.01	8,782.28	118.48
2011	22.33	80.78	18.61	141.75	4,613.10	187.94	11.26	491.57	40.39	113.64	9,081.08	80.28
2012	21.74	85.17	19.37	136.03	4,262.11	210.10	10.81	503.24	41.26	106.46	9,012.68	150.64
2013	21.00	82.17	17.42	119.64	3,849.28	166.10	9.35	435.27	37.58	109.54	8,823.61	92.67
2014	19.22	86.05	16.59	125.21	4,246.65	164.20	8.89	415.97	36.98	97.84	9,068.17	75.90
2015	18.93	87.16	29.02	126.02	4,269.15	176.43	11.72	502.12	43.33	97.81	10,125.83	102.45
2016	19.39	71.90	18.43	119.21	4,134.72	172.91	12.69	429.70	34.78	116.72	10,500.20	145.38
2017	21.35	71.80	14.29	142.81	4,344.10	139.39	11.46	462.12	37.96	131.24	8,967.00	211.80
2018	**18.00**	**58.10**	**10.43**	**106.93**	**3,331.30**	**114.56**	**4.12**	**330.67**	**21.03**	**80.69**	**8,075.00**	**117.60**

TOTAL METALS (As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Se, Zn):

* CN result inconclusive

Year	lb/Year	% CHANGE
1992	20,323.00	0.00
1993	22,033.00	8.41
1994	18,783.00	-14.75
1995	19,927.80	6.09
1996	17,544.00	-11.96
1997	18,320.00	4.42
1998	18,961.00	3.50
1999	19,725.90	4.03
2000	21,972.70	11.39
2001	17,283.66	-21.34
2002	15,972.34	-7.59
2003	15,569.62	-2.52
2004	16,518.71	6.10
2005	17,698.56	7.14
2006	16,886.14	-4.59
2007	15,546.35	-7.93
2008	16,287.43	4.77
2009	14,460.23	-11.22
2010	14,687.70	1.57
2011	14,780.12	0.63
2012	14,387.23	-2.66
2013	13,649.95	-5.12
2014	14,266.55	4.52
2015	15,468.60	8.43
2016	15,611.26	0.92
2017	14,322.17	-8.26
2018	12,132.83	-15.29

Table E.5-4
Summary of Effluent Metals and Cyanide 1992 – 2018

ppb

Year	Flow	As	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Se	Zn	CN
1992	21.20	2.80	1.00	5.00	11.70	1.30	0.10	4.50	0.70	1.40	66.30	11.10
1993	27.70	6.20	0.20	1.00	9.50	1.00	0.10	6.20	0.30	1.70	59.00	5.20
1994	22.40	1.50	0.20	1.00	6.00	1.10	0.10	4.90	0.20	1.30	59.00	5.10
1995	26.00	1.50	0.20	1.00	7.00	1.00	0.10	3.50	0.20	1.60	54.00	5.10
1996	25.60	1.10	0.20	1.00	5.00	1.00	0.04	3.20	0.20	0.40	53.60	3.40
1997	26.10	0.90	0.20	0.90	6.40	0.80	0.02	3.40	0.20	0.50	55.70	3.30
1998	28.50	1.10	0.20	1.30	6.90	0.50	0.01	4.40	0.20	0.40	49.40	3.10
1999	25.70	0.90	0.20	0.80	5.30	0.60	0.01	4.30	0.20	0.40	58.30	3.00
2000	27.67	0.90	0.20	0.78	7.20	0.62	0.01	4.60	0.20	0.46	58.17	3.03
2001	25.73	0.93	0.20	0.63	5.41	0.43	0.01	4.83	0.20	0.58	47.25	3.16
2002	24.88	0.88	0.22	0.74	6.97	0.41	0.01	3.92	0.20	0.48	44.83	3.91
2003	24.88	0.90	0.20	0.80	7.10	0.40	0.01	3.30	0.20	0.70	45.90	3.50
2004	23.80	0.80	0.20	0.60	8.80	0.50	0.01	3.10	0.20	0.60	50.30	2.80
2005	25.90	0.80	0.20	0.60	8.10	0.40	0.00	3.30	0.20	0.60	43.90	3.50
2006	26.90	0.90	0.20	0.60	8.10	0.40	0.00	3.30	0.20	0.70	44.90	3.10
2007	22.82	0.89	0.20	0.60	9.25	0.40	0.00	3.42	0.20	1.10	52.00	2.00
2008	21.91	0.80	0.20	0.60	8.82	0.40	0.00	3.17	0.20	1.32	54.60	1.66
2009	21.53	1.02	0.20	0.53	8.11	0.40	0.00	3.29	0.20	1.49	49.88	1.69
2010	21.40	1.12	0.20	0.50	6.29	0.40	0.00	4.30	0.20	1.63	41.79	1.60
2011	20.17	1.12	0.10	0.34	7.73	0.25	0.00	4.93	0.06	1.43	38.69	1.80
2012	22.95	1.10	0.12	0.29	8.47	0.20	0.00	5.03	0.01	1.60	50.00	1.52
2013	20.35	1.12	0.14	0.29	11.29	0.22	0.00	4.78	0.02	1.47	53.18	1.54
2014	19.21	1.26	0.14	0.35	10.81	0.20	0.00	4.75	0.05	1.37	59.38	1.60
2015	19.01	1.22	0.36	0.35	9.03	0.24	0.00	4.16	0.04	1.31	63.11	1.63
2016	22.40	1.04	0.12	0.32	9.06	0.14	0.00	3.94	0.02	1.30	59.49	1.93
2017	21.92	0.93	0.10	0.31	9.04	0.13	0.00	4.52	0.02	1.56	46.70	1.60
2018	**20.37**	**0.92**	**0.09**	**0.34**	**9.29**	**0.18**	**0.00**	**4.18**	**0.02**	**1.38**	**57.70**	**1.80**

lb/yr

Year	Flow	As	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Se	Zn	CN
1992	21.20	183.00	65.00	323.00	755.00	84.00	7.60	290.00	46.00	93.00	4,289.00	715.00
1993	27.70	471.00	16.00	41.00	698.00	81.00	7.00	455.00	19.30	130.00	4,358.00	382.00
1994	22.40	104.00	15.00	71.00	417.00	74.00	6.80	334.00	14.70	92.00	3,992.00	345.00
1995	26.00	119.00	16.00	79.00	513.00	79.00	8.80	278.00	16.00	130.00	4,233.00	396.00
1996	25.60	82.90	15.60	78.10	383.30	78.10	3.10	246.70	15.80	33.20	4,125.40	260.80
1997	26.10	75.20	15.90	75.60	509.00	65.90	1.50	269.70	16.30	41.80	4,393.60	257.80
1998	28.50	103.70	17.30	133.50	579.90	41.30	1.10	374.10	17.30	52.70	4,194.80	268.50
1999	25.70	72.00	16.20	61.80	407.90	48.10	0.80	330.90	15.60	33.90	4,536.20	235.20
2000	27.67	72.50	16.90	66.00	603.70	51.20	0.50	385.00	16.90	38.60	4,885.80	256.00
2001	25.73	71.99	15.66	49.69	424.62	34.08	0.42	377.78	15.66	45.39	3,711.15	246.38
2002	24.88	67.05	16.38	56.00	519.40	30.99	0.53	297.01	15.15	36.00	3,382.52	297.87
2003	24.88	64.90	15.10	57.70	529.30	32.60	0.38	250.80	15.10	54.80	3,468.90	267.90
2004	23.80	55.00	13.40	42.80	628.80	30.30	0.41	207.10	13.40	37.30	3,358.90	195.50
2005	25.90	63.30	16.00	50.10	638.80	31.80	0.31	259.30	15.60	44.70	3,414.70	272.20
2006	26.90	72.70	16.20	49.20	647.10	32.40	0.29	266.70	16.20	56.50	3,581.30	245.80
2007	22.82	60.48	13.89	41.67	639.39	27.78	0.22	232.56	13.89	75.76	3,598.27	139.00
2008	21.91	53.20	13.38	40.13	588.98	26.75	0.20	213.10	13.38	88.95	3,649.08	110.77
2009	21.53	66.01	13.09	35.03	529.78	26.19	0.17	215.33	13.09	97.56	3,262.89	92.47
2010	21.40	72.18	13.04	32.60	399.34	26.13	0.14	279.50	13.04	108.89	2,687.12	104.32
2011	20.17	87.76	6.03	20.48	407.55	15.58	0.16	303.71	3.63	87.76	2,367.15	110.64
2012	22.95	79.43	8.88	22.47	579.91	16.46	0.23	353.02	1.77	109.26	3,429.05	105.19
2013	20.35	69.23	8.55	17.57	703.04	13.51	0.12	296.21	1.24	90.69	3,299.72	97.01
2014	19.21	74.69	8.31	20.62	634.58	11.63	0.08	279.28	2.96	80.95	3,478.30	92.38
2015	19.01	71.60	8.31	20.01	526.43	13.82	0.07	241.51	2.15	75.72	3,703.80	94.68
2016	22.40	71.00	7.92	21.82	619.35	9.57	0.10	269.11	1.54	88.72	4,067.68	131.62
2017	21.92	66.00	6.90	22.74	587.93	10.24	0.10	308.98	1.68	109.96	3,022.00	120.40
2018	**20.37**	**60.00**	**5.74**	**22.20**	**576.61**	**18.71**	**0.07**	**259.09**	**1.24**	**85.37**	**3,567.30**	**108.80**

TOTAL METALS (As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Se, Zn):

Year	lb/Year	% CHANGE
1992	6,135.60	0.00
1993	6,276.30	2.29
1994	5,120.50	-18.42
1995	5,471.80	6.86
1996	5,062.20	-7.49
1997	5,464.50	7.95
1998	5,515.70	0.94
1999	5,523.40	0.14
2000	6,137.10	11.11
2001	4,746.46	-22.66
2002	4,421.02	-6.86
2003	4,489.58	1.55
2004	4,387.41	-2.28
2005	4,534.61	3.36
2006	4,738.59	4.50
2007	4,703.92	-0.73
2008	4,687.14	-0.36
2009	4,259.15	-9.13
2010	3,631.98	-14.73
2011	3,299.81	-9.15
2012	4,600.48	39.42
2013	4,499.90	-2.19
2014	4,591.40	2.03
2015	4,663.42	1.57
2016	5,156.80	10.58
2017	4,136.53	-19.78
2018	4,596.33	11.12

Table E.5-5

Influent Metals Loading to the Plant
2000 - 2018
(As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Se, Zn)

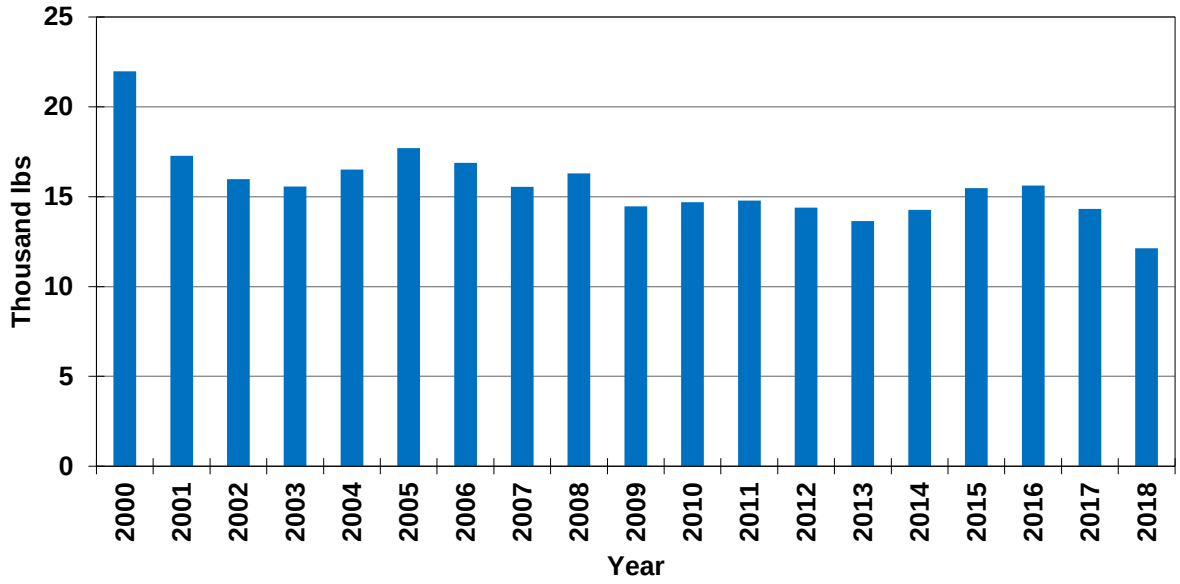
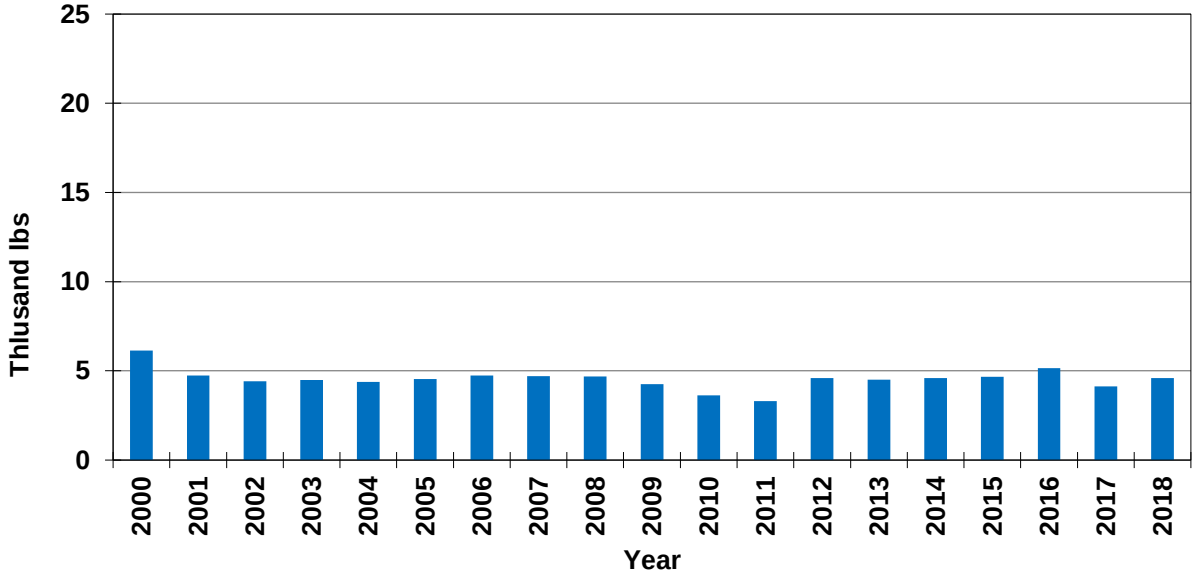
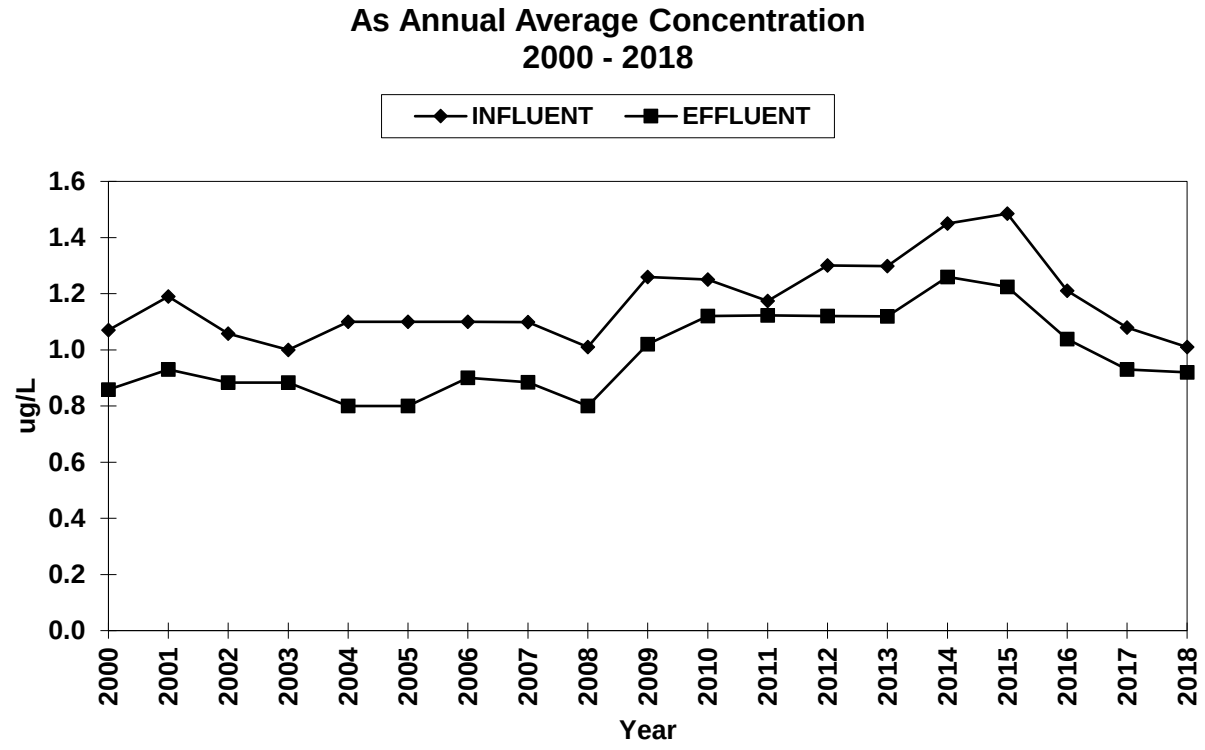
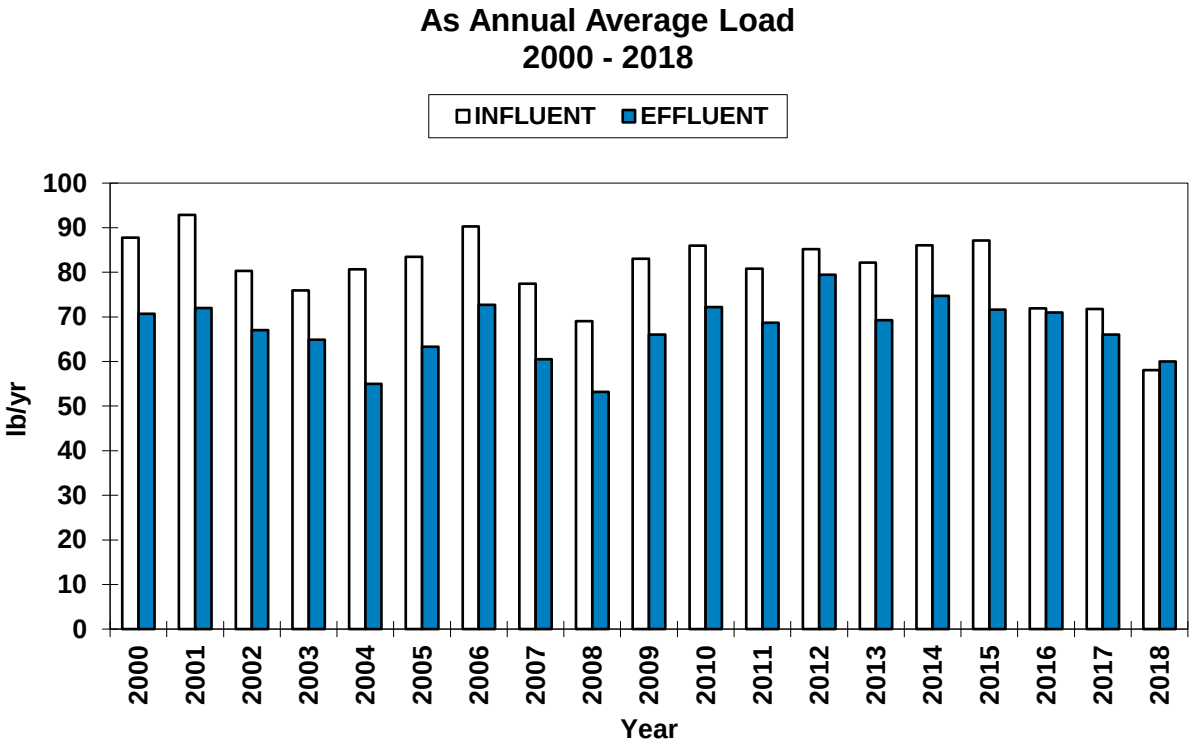


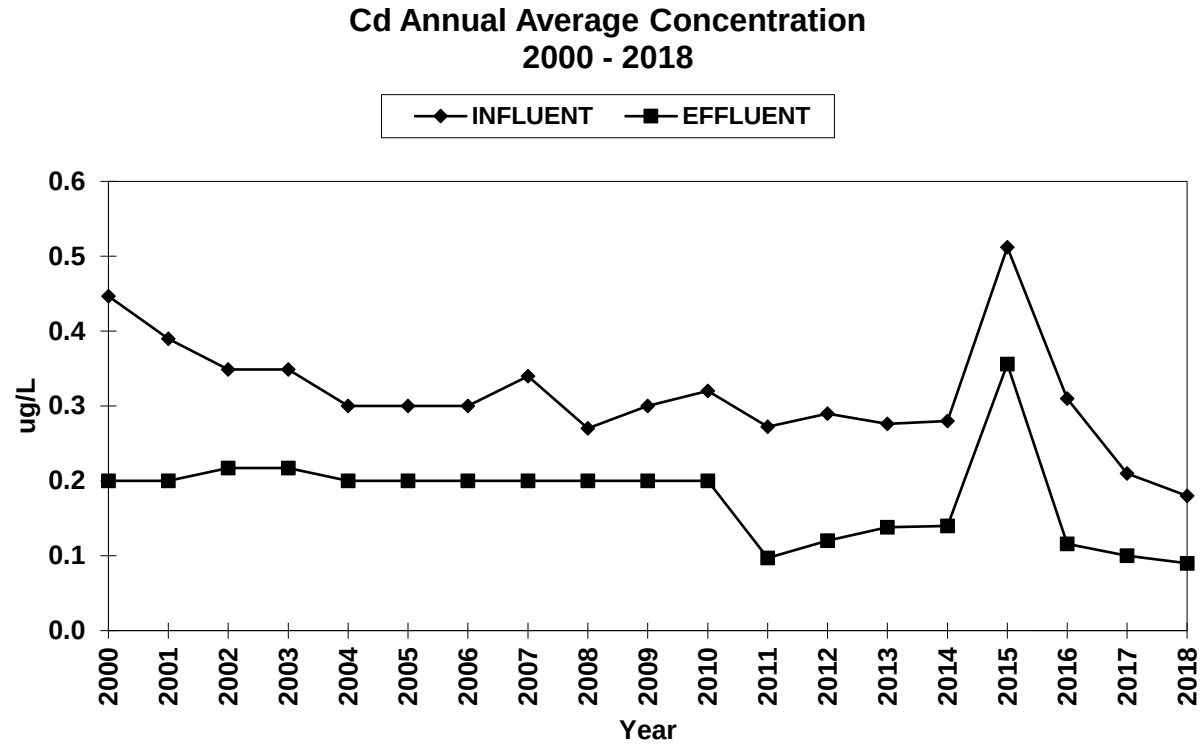
Table E.5-6

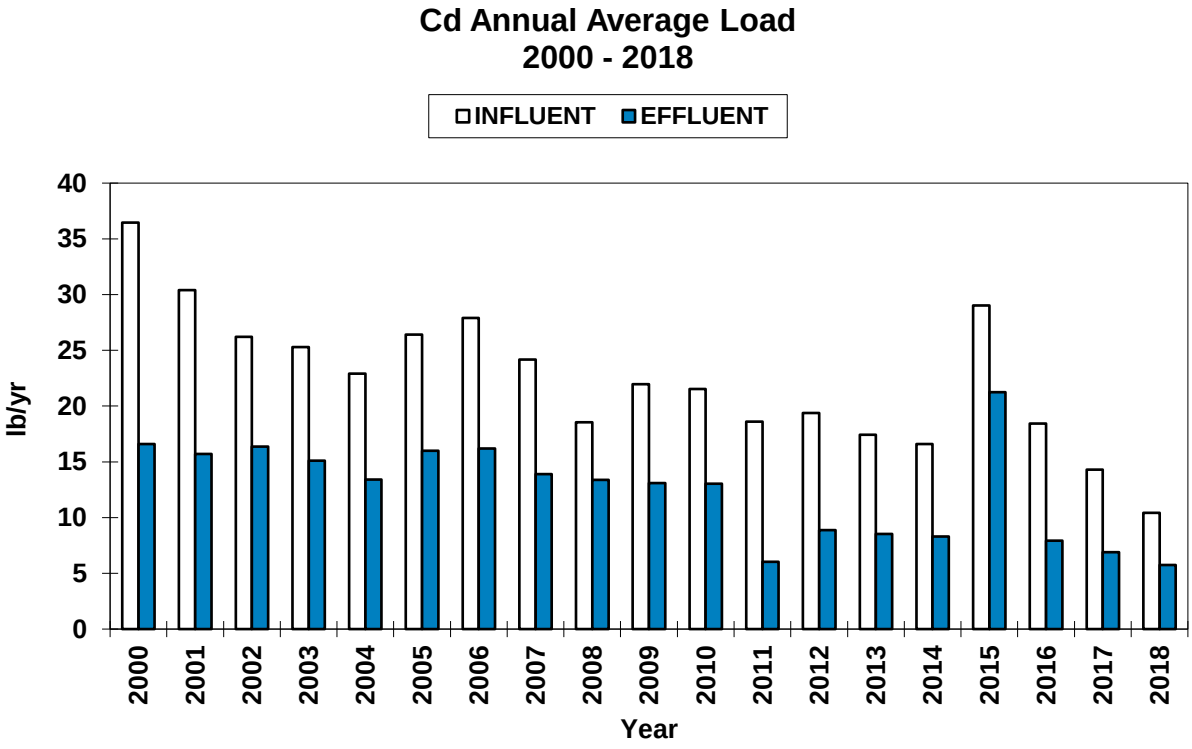
Effluent Metals Loading from the Plant
2000 - 2018
(As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Se, Zn)

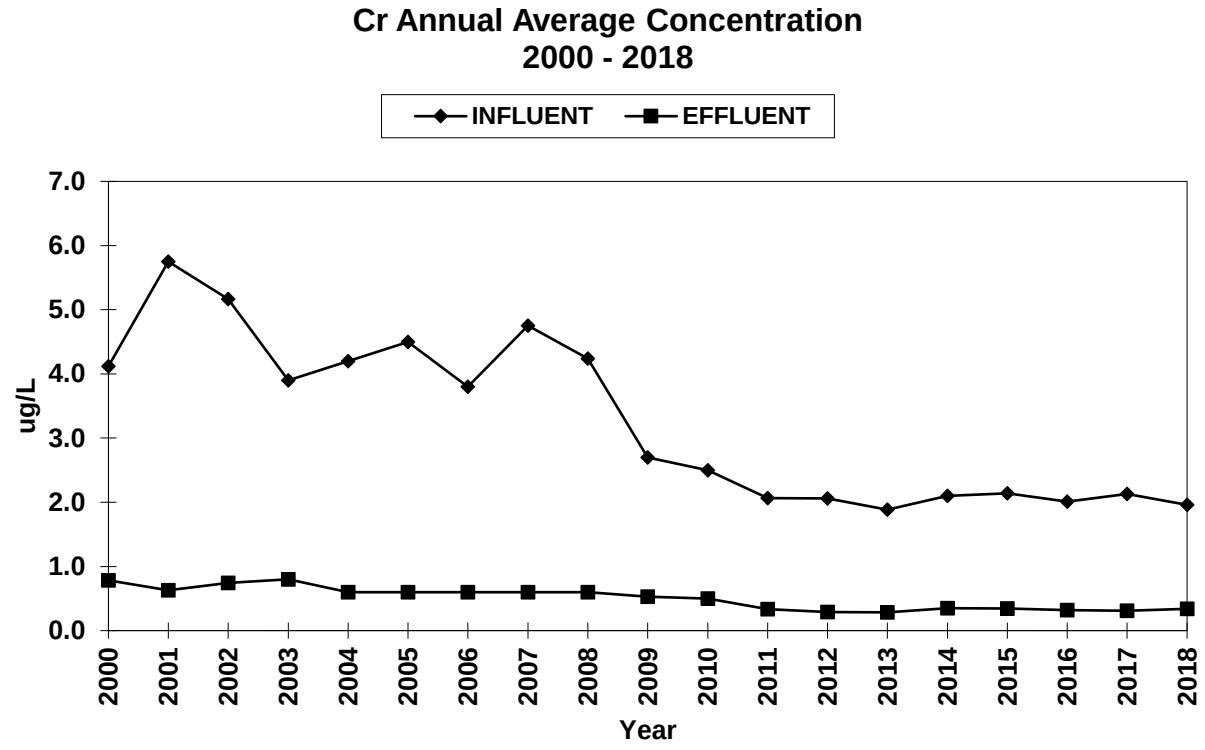


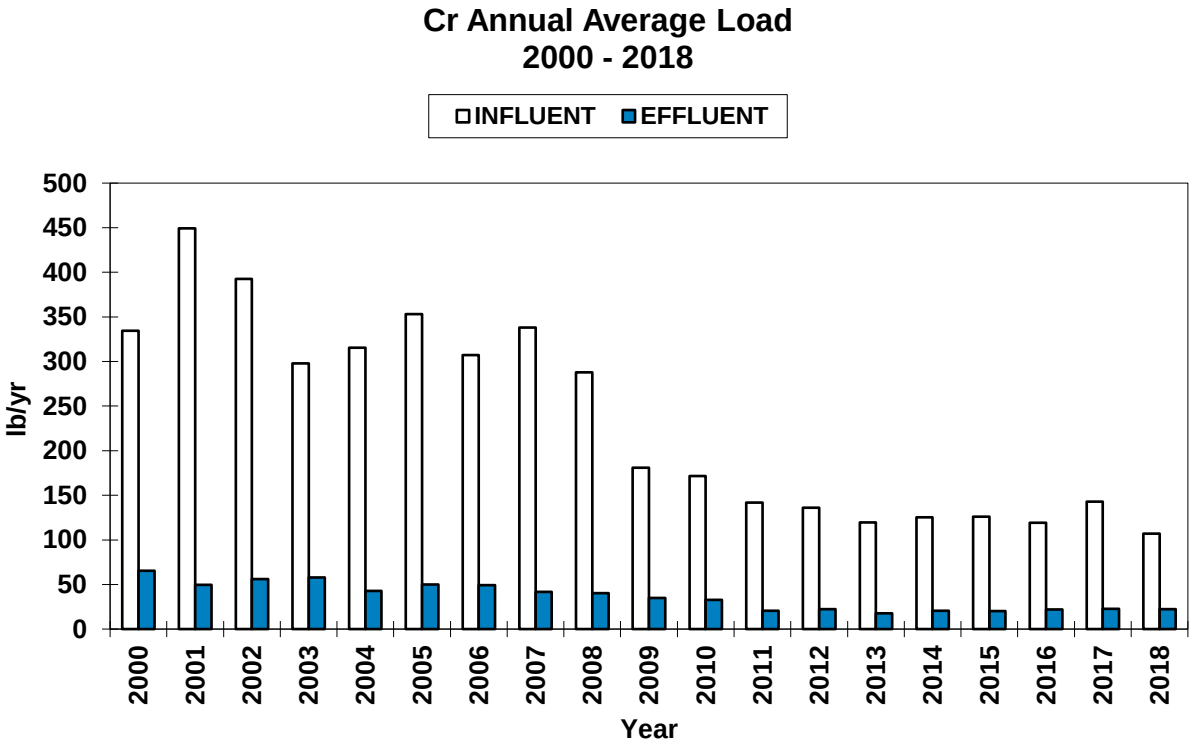

As Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

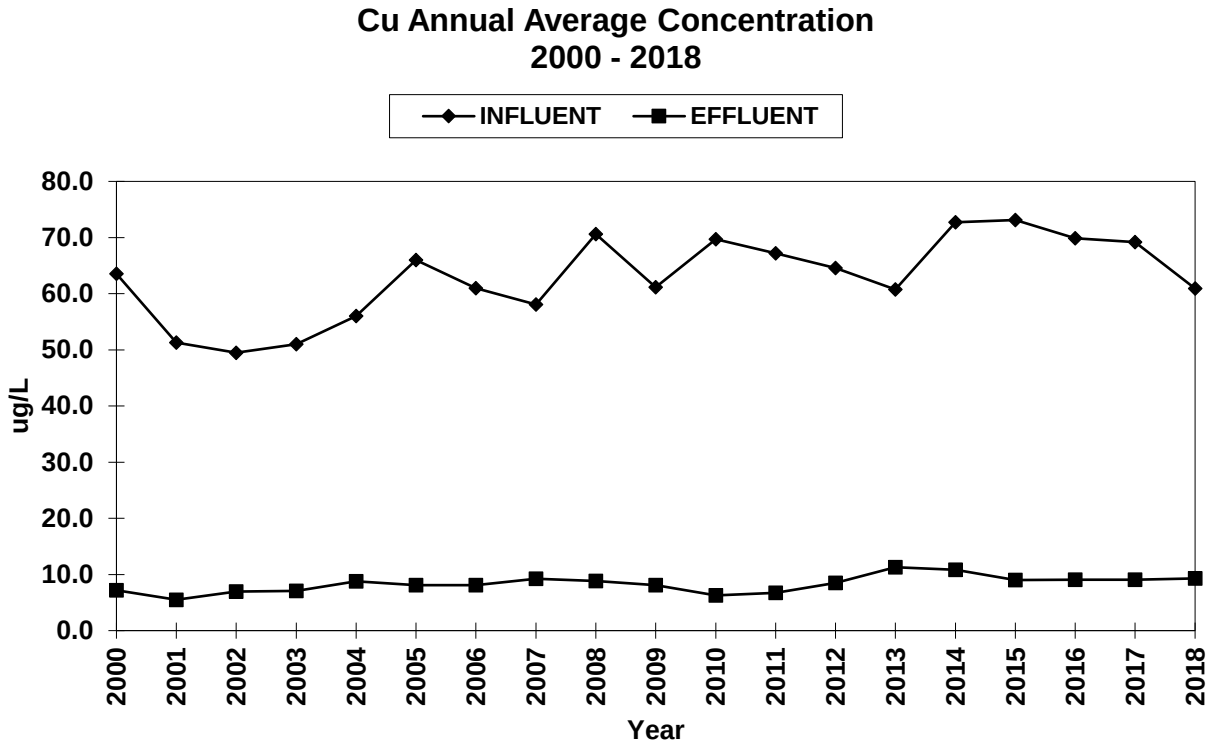

As Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
lb/yr
100
90
80
70
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

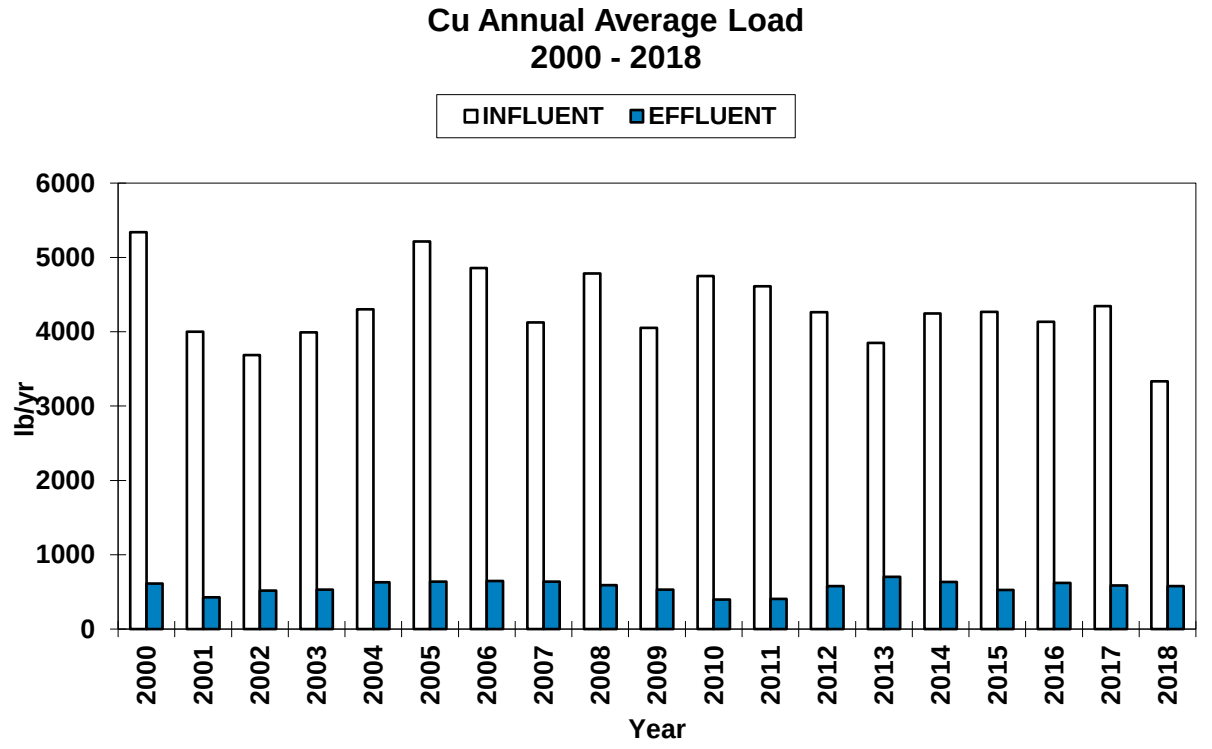

Cd Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

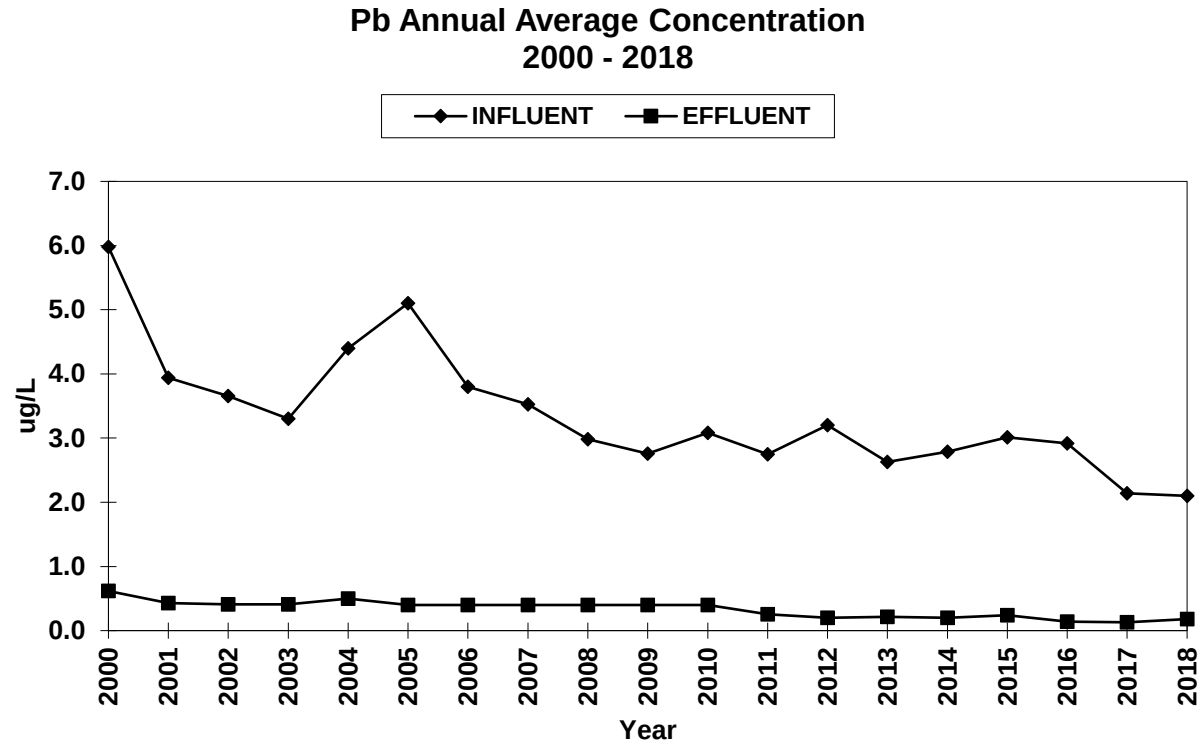

Cd Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
lb/yr
40
35
30
25
20
15
10
5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

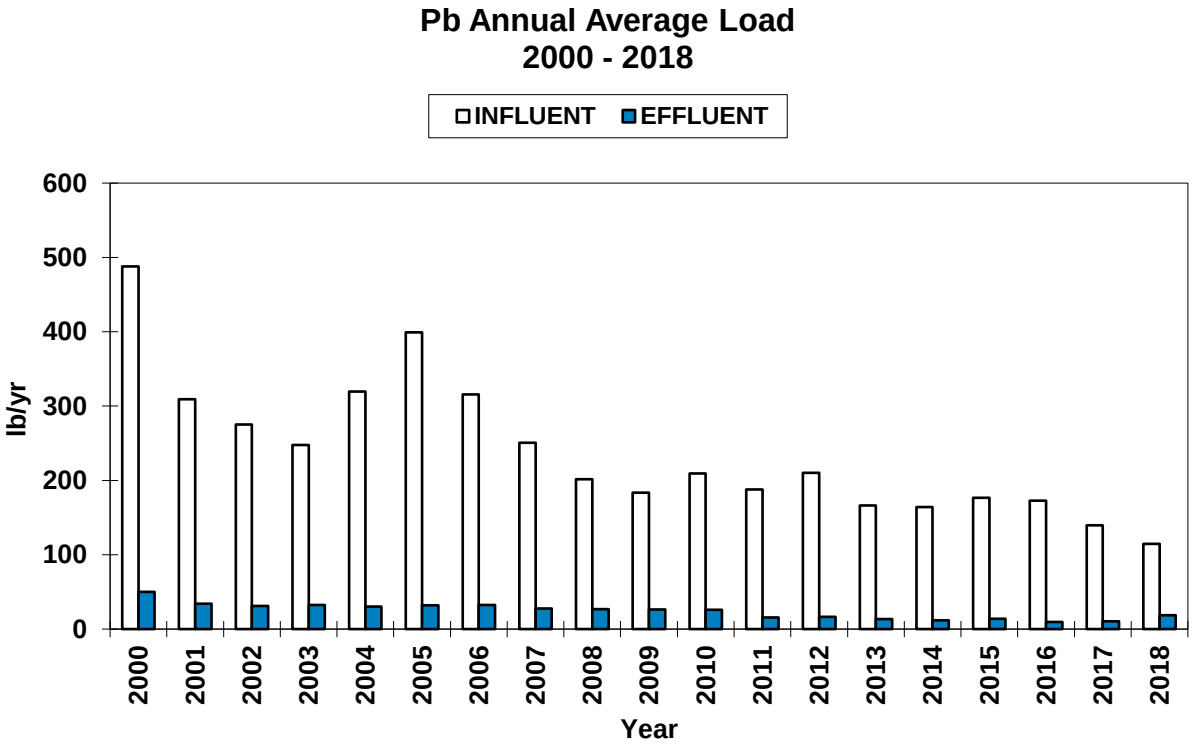

Cr Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

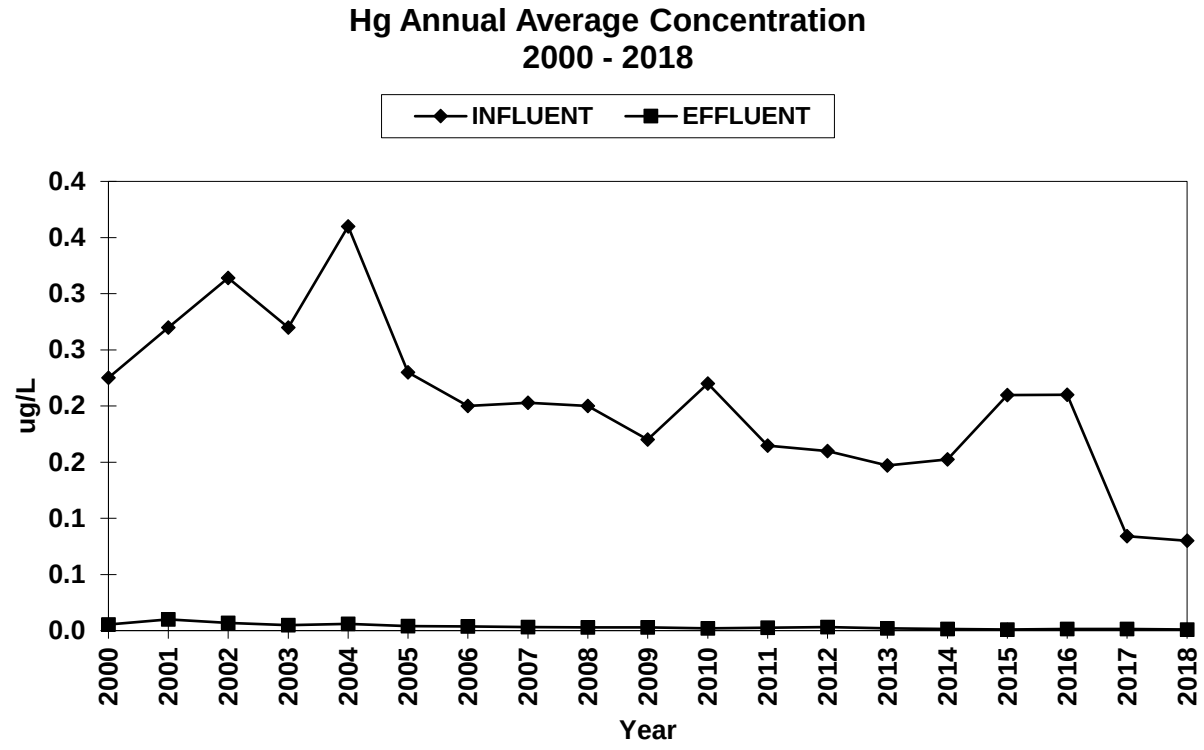

Cr Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
lb/yr
500
450
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

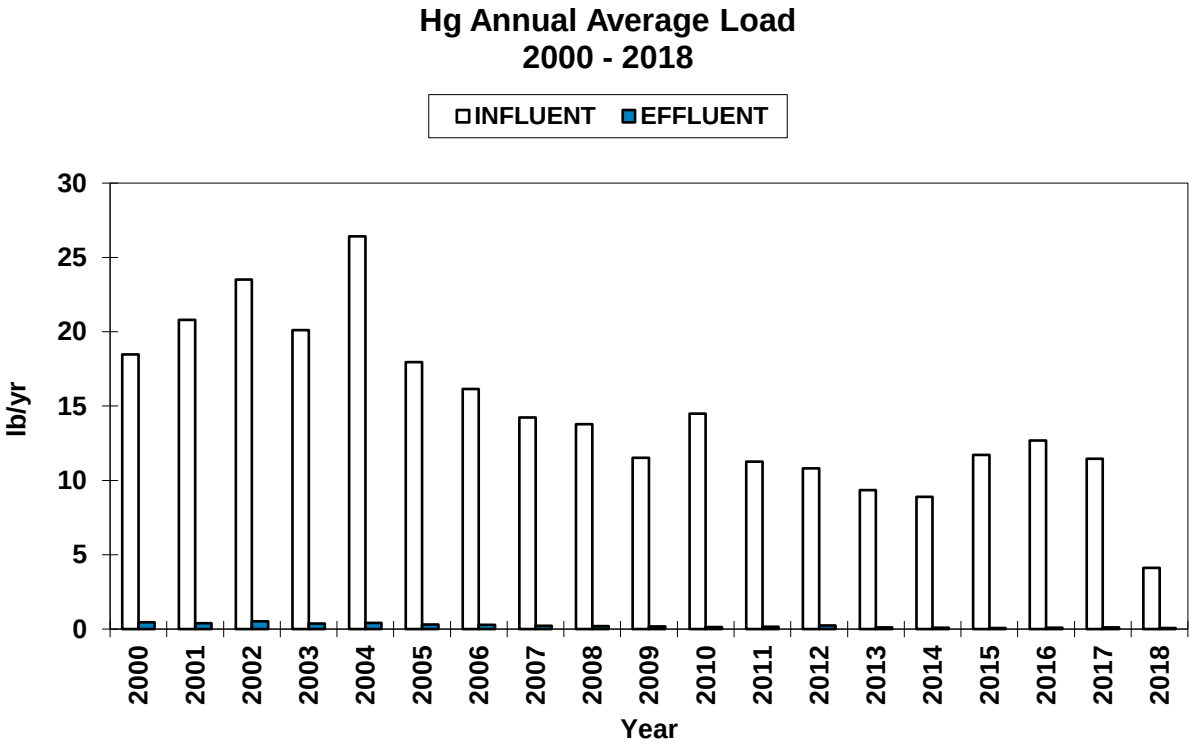

Cu Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
ug/L
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

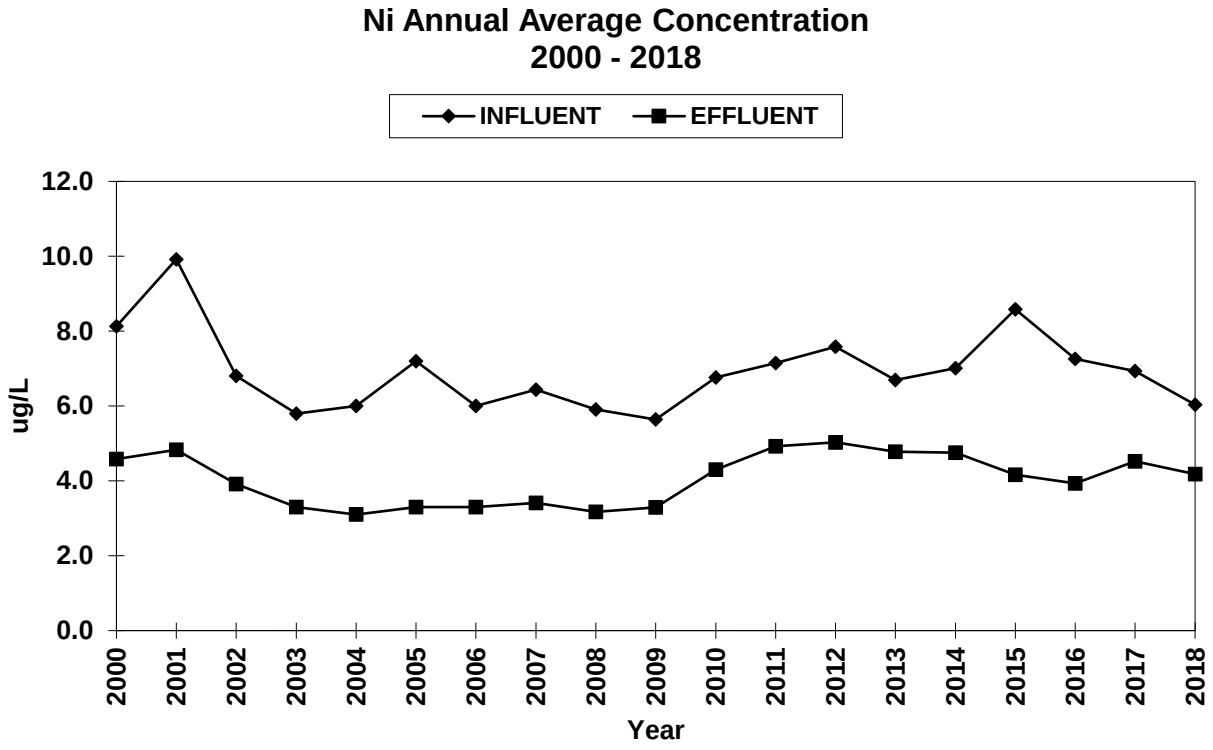

Cu Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
6000
5000
4000
3000
2000
1000
0
lb/yr
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

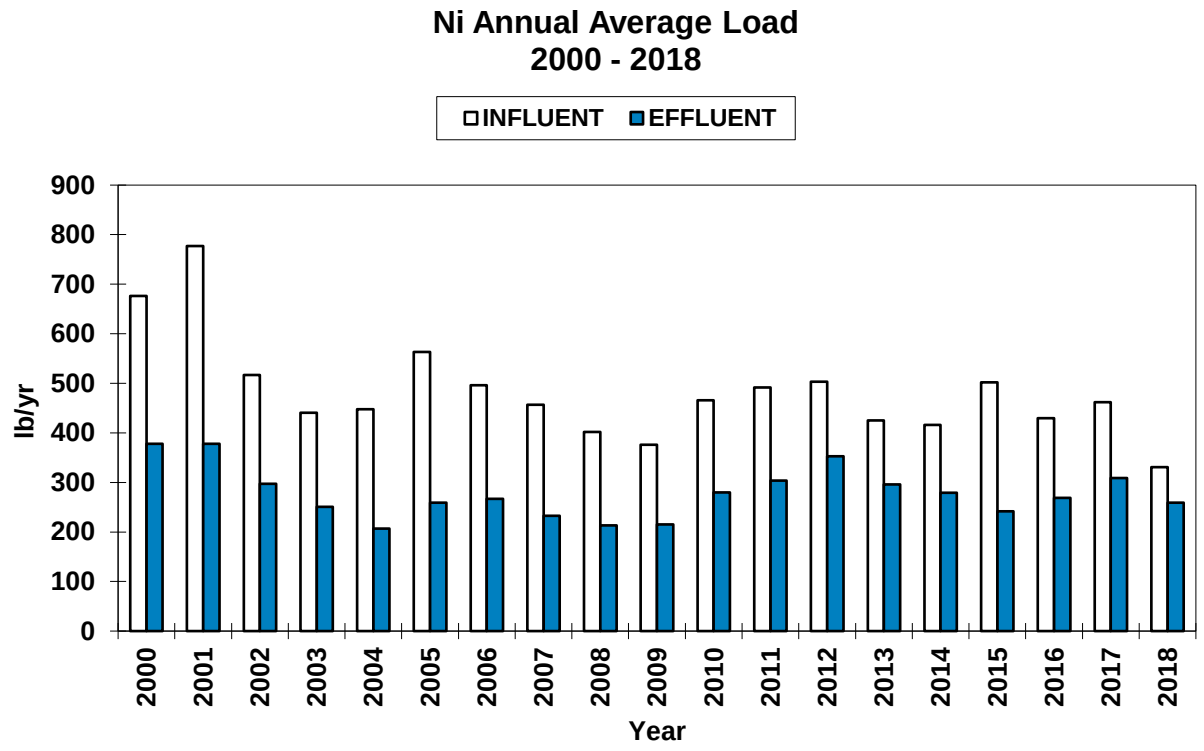

Pb Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

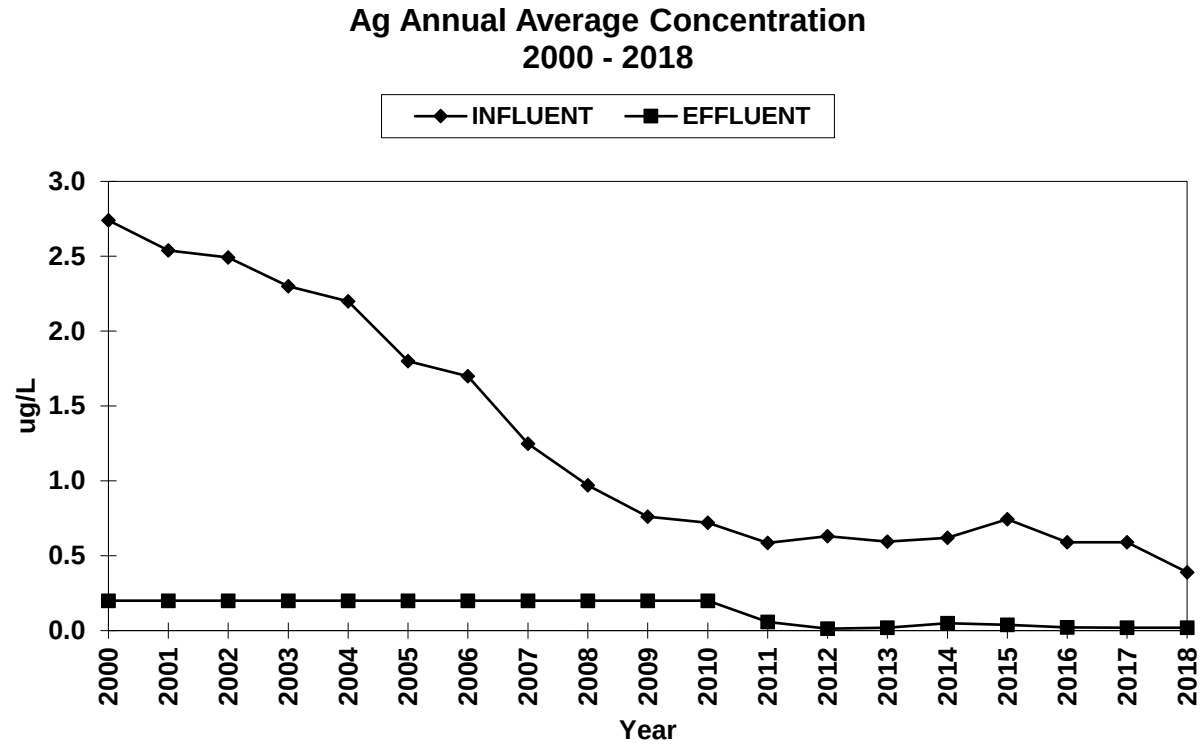

Pb Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
lb/yr
600
500
400
300
200
100
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

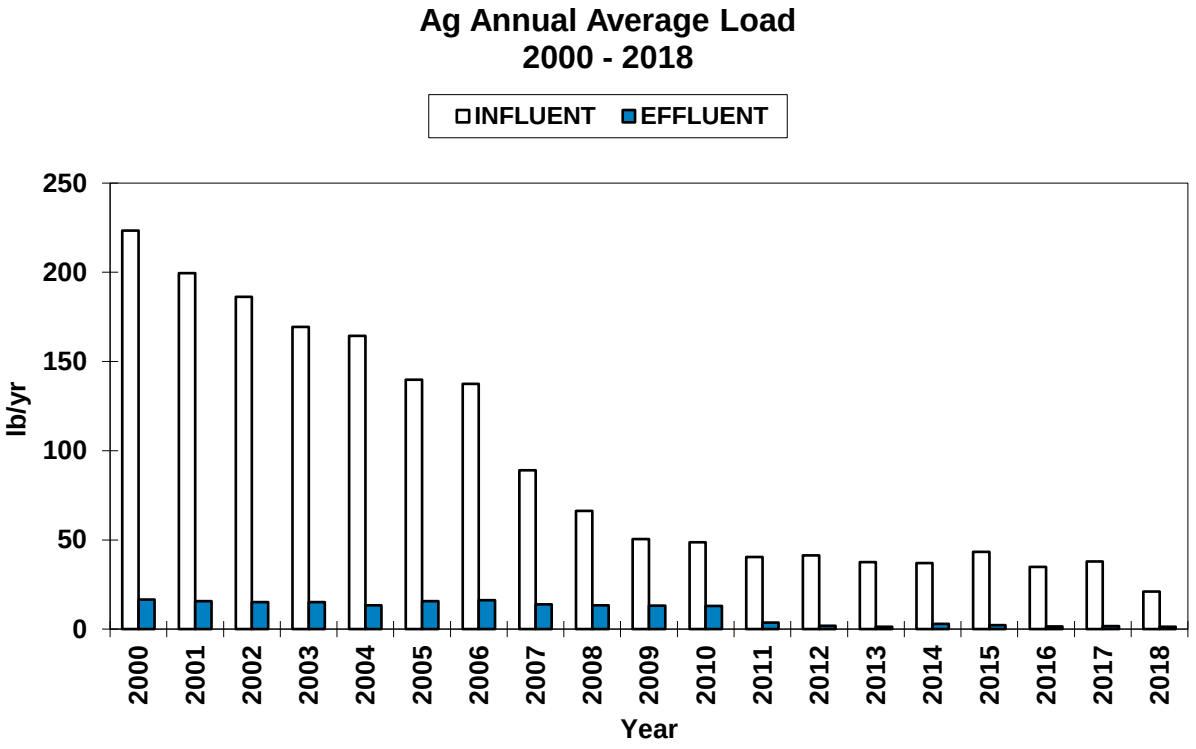

Hg Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
0.4
0.4
0.3
0.3
0.2
0.2
0.1
0.1
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


Hg Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
lb/yr
30
25
20
15
10
5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

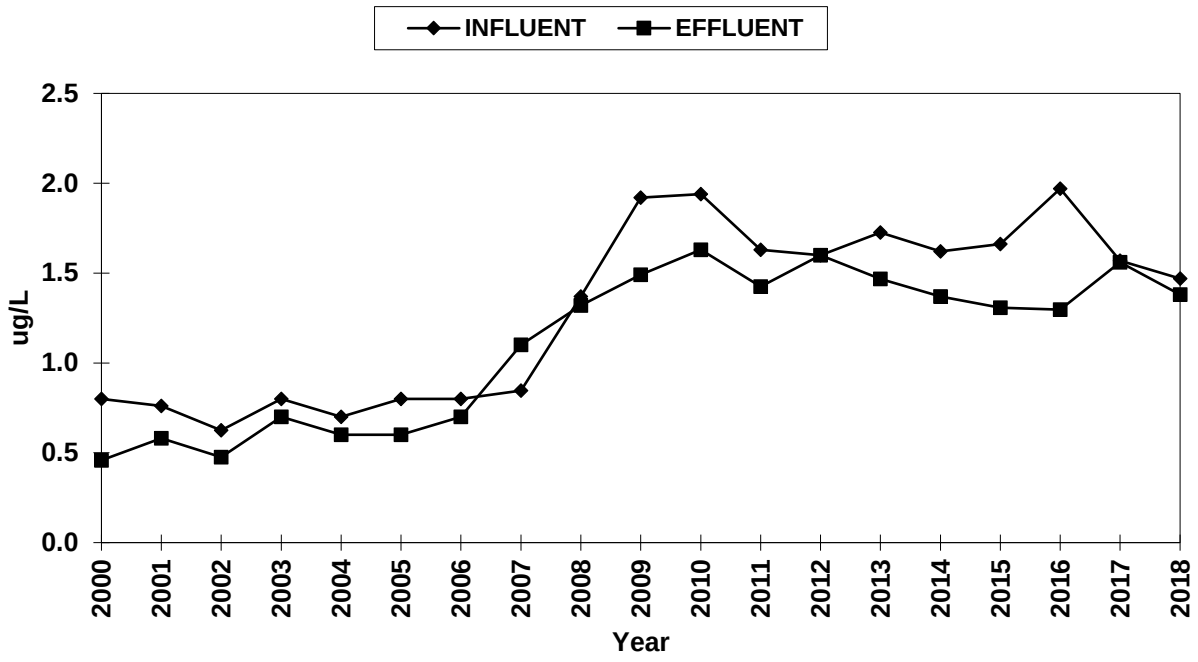

Ni Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
12.0
10.0
8.0
6.0
4.0
2.0
0.0
ug/L
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


Ni Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
900
800
700
600
500
400
300
200
100
0
lb/yr
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

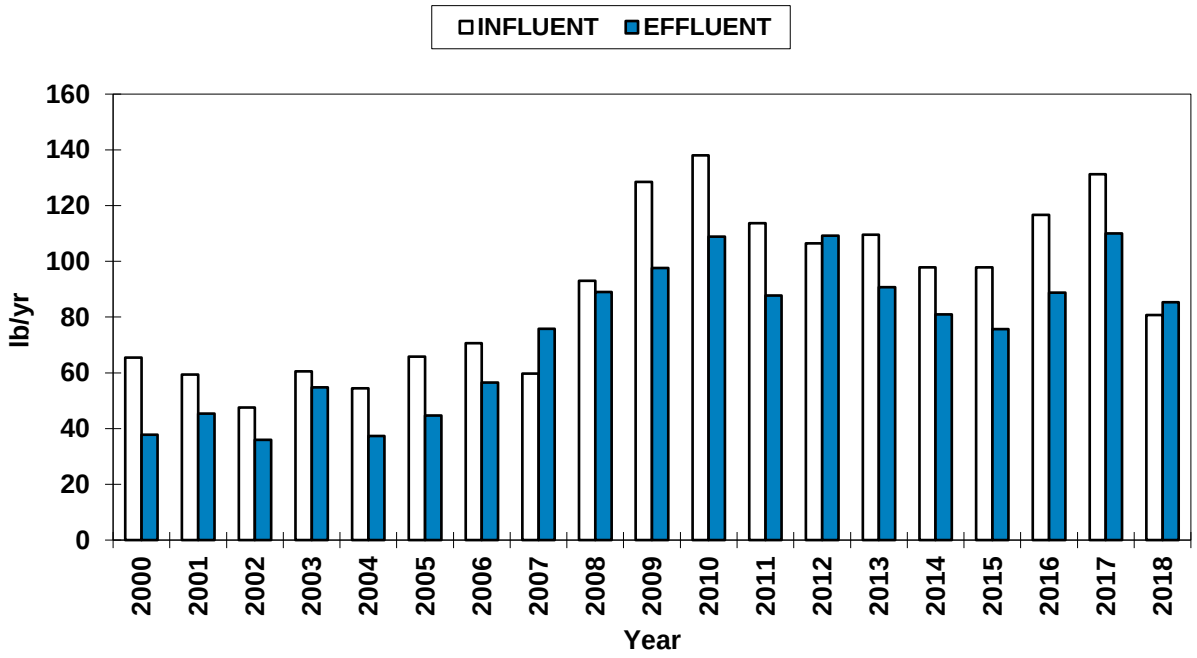

Ag Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
3.0
2.5
2.0
1.5
1.0
0.5
0.0
ug/L
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

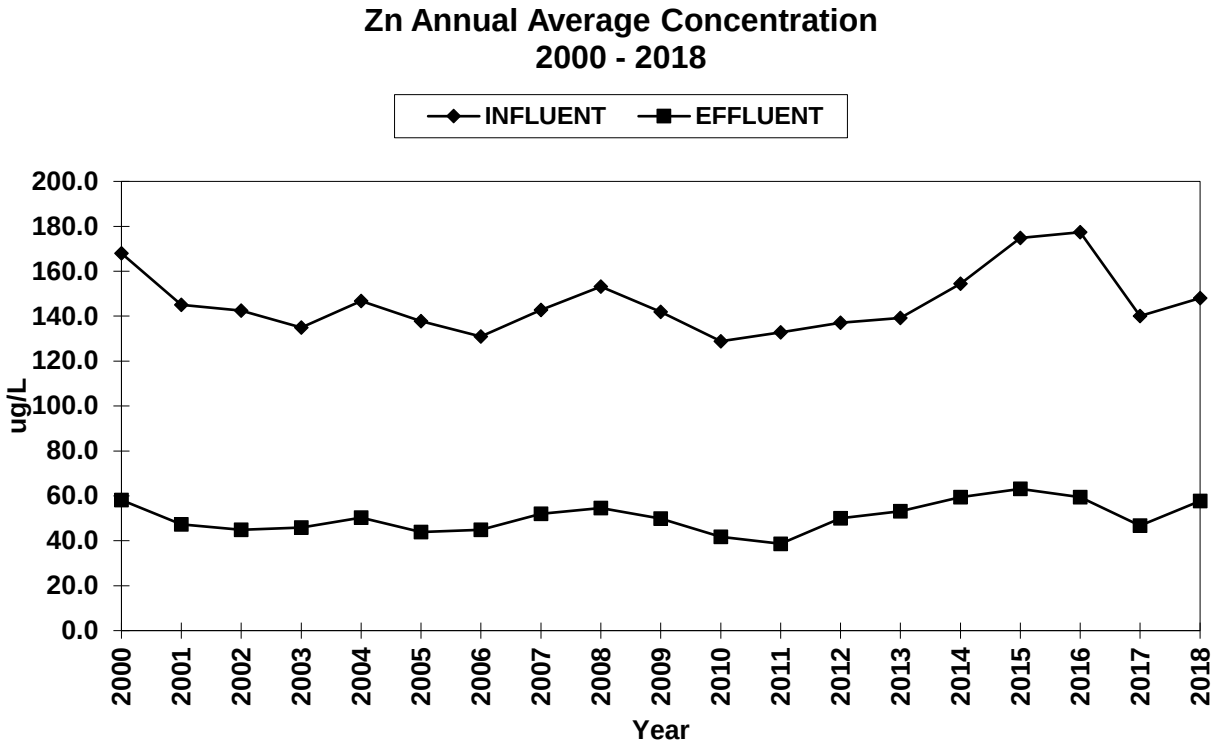

Ag Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
250
200
150
100
50
0
lb/yr
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

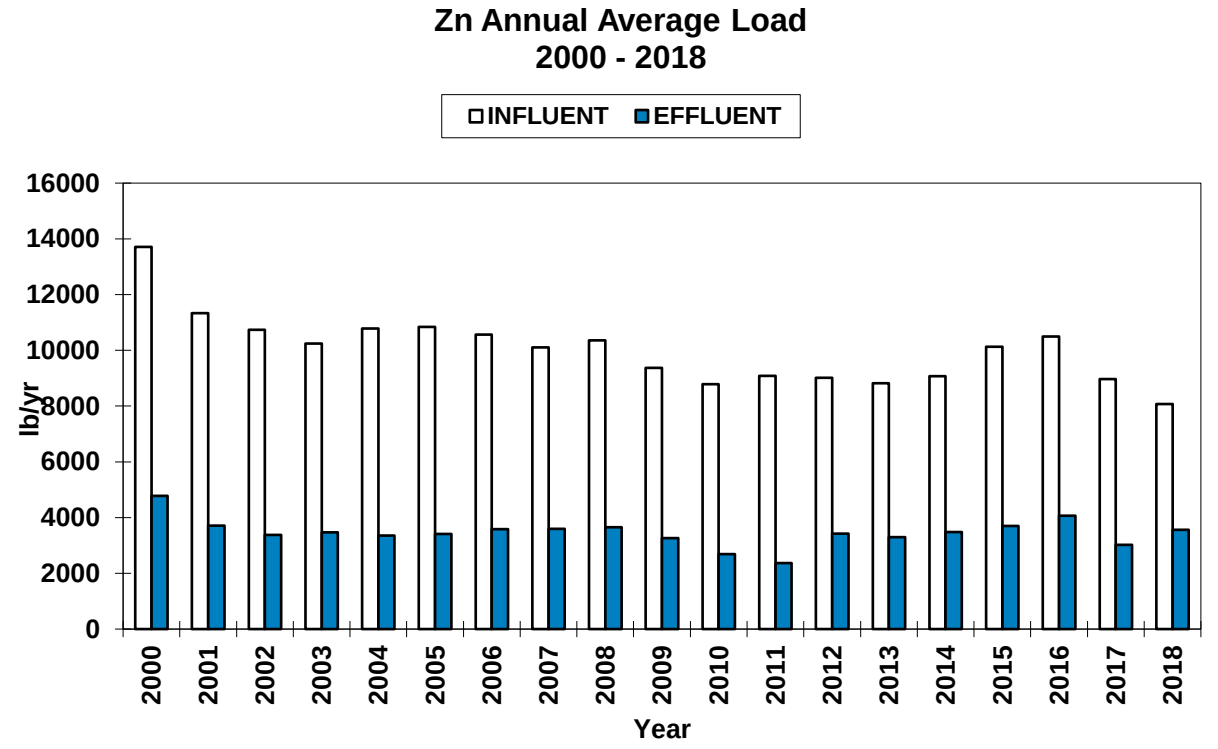
Se Annual Average Concentration
2000 - 2018

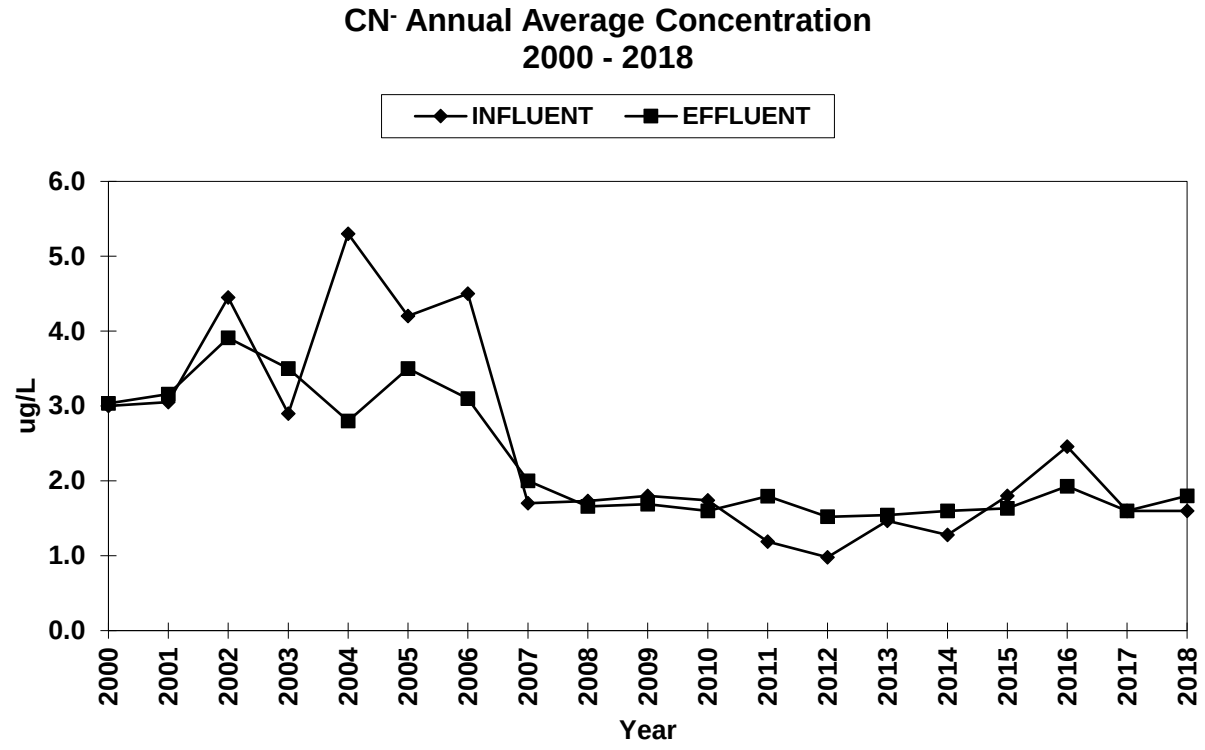


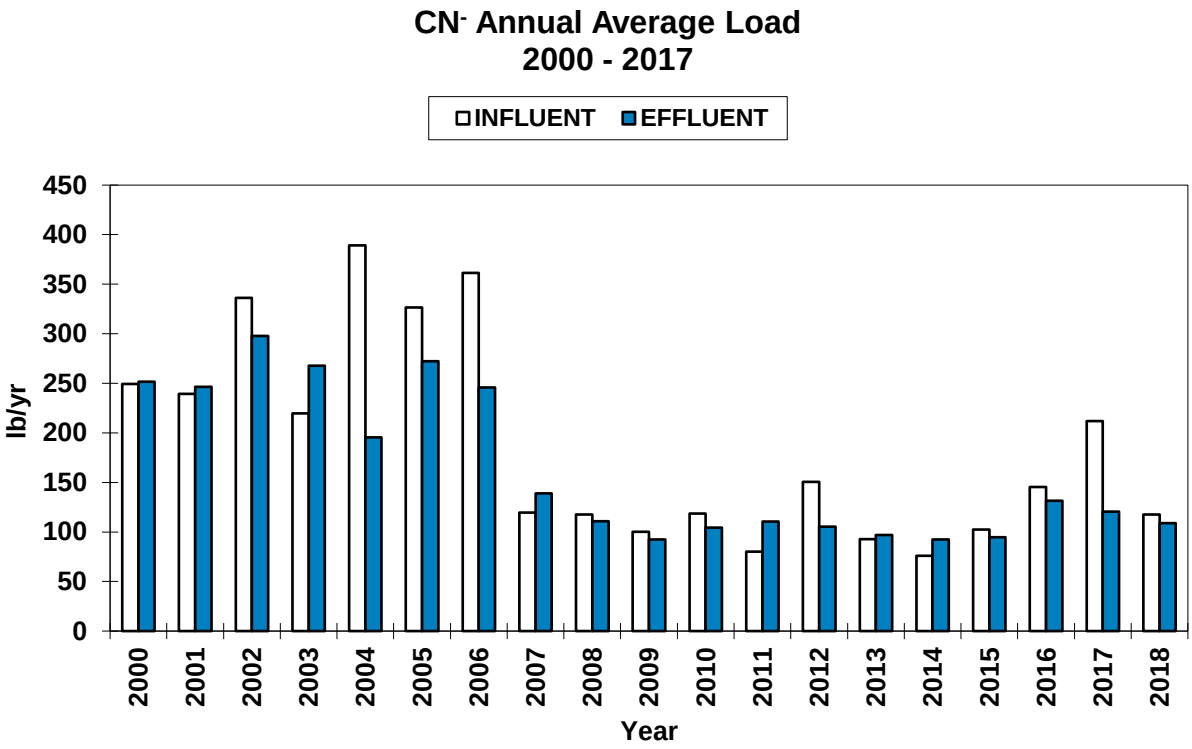
Se Annual Average Load
2000 - 2018




Zn Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
200.0
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
ug/L
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


Zn Annual Average Load
2000 - 2018
INFLUENT
EFFLUENT
16000
14000
12000
10000
8000
6000
4000
2000
0
lb/yr
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


CN- Annual Average Concentration
2000 - 2018
INFLUENT
EFFLUENT
ug/L
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


CN- Annual Average Load
2000 - 2017
INFLUENT
EFFLUENT
lb/yr
450
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year

F. INSPECTION, SAMPLING AND ENFORCEMENT PROGRAMS

F.1 Inspection Program

Inspection frequencies are set and may be modified based on the type of facility, discharge volume, facility size, and compliance history. Minimum inspection frequencies are summarized in Table F.1-1. Program staff conducts the following types of inspections:

- **Pre-Permit Inspection**
  Pre-Permit inspections are scheduled with the IU to gather and verify information on manufacturing and treatment processes, regulated and unregulated processes, chemical storage and handling, waste disposal practices, proper secondary containment, flow rates, plumbing and piping layouts and other pertinent information needed to confirm information provided by the IU and to determine the appropriate permit type and permit provisions for the facility.

- **Violation Inspections**
  Any inspection and/or monitoring performed to investigate the source(s) of noncompliance and or to determine the status of previously found problems or noncompliance.

- **Routine Compliance Inspections**
  Annual or semiannual facility inspections typically scheduled with the IU to verify information contained in Periodic Reports of Continued Compliance, verify compliance with permit provisions, and to determine if any changes to the facility or operations have occurred that have not been previously reported to the POTW.

- **Special Investigation Inspections**
  Site inspections conducted at the request of IUs or performed as a result of process or treatment changes, spills, bypasses or upsets, or other unanticipated events.

- **Sampling Inspections**
  Unannounced inspections conducted during POTW staff visits to sites for sample collection. Sampling inspections include the following elements as applicable:

  1. Checking samples for pH and recording the results;
  2. Comparing field pH results with IU pH monitoring equipment results;
  3. Recording IU flow meter totalizer readings;
  4. Observing IU sample point(s) and sampling equipment; and
  5. Recording and addressing abnormalities observed in effluent conditions and/or pretreatment systems.

TABLE F.1-1
Minimum Inspection Frequencies

Facility Type	Minimum Inspection Frequency
Categorical/SIU	Annual
Categorical (Zero Discharge)	Annual
Non-Categorical (SIU)	Annual
Non-Categorical (non-SIU)	Annual
Best Management Practices (BMP)	Annual
Permitted Vehicle Service Facility	Annual
Non-Permitted Vehicle Service Facility	Annual
Photo Processing	Annual
Groundwater	Once during permit cycle
Machine Shops	Once during permit cycle
Food Service Establishments	Typically once every 3-years
Dental offices that remove or replace amalgam	Typically 20% each year

F.2 Sampling Program

The City's industrial sampling program involves self-monitoring compliance sampling by industrial users regulated under Basic or Full discharge permits and unannounced sampling by the City. Industrial user self-monitoring requirements are included in discharge permits issued by all Partner agencies. The criteria used for determining the self-monitoring sampling frequency are based on the nature of the discharge, the industrial user classification (subject to local or federal discharge limitations), and the industrial user's potential to violate discharge regulations. IUs regulated under a Basic or Full discharge permit are monitored at a minimum on an annual basis for the following:

Base Sampling

- **Semi-annual Sampling**
  - Metals: Ag, As, Cd, Cr, Cu, Hg, Ni, Pb, Se and Zn
  - pH
  - STO/TTO
- **Annual Sampling**
  - CN

Categorical Industrial Users with process wastewater discharges are monitored at a minimum twice per year for all federally regulated pollutants.

Additional pollutants may be monitored if present in industrial user operations. Violation follow-up sampling is typically limited to the pollutant or pollutant properties that were in violation.

Sampling Types

- **Routine Sampling**

Consists of unannounced sampling performed at industrial users by City staff.

- **Follow-up Sampling**
  Violations of discharge standards are resampled in accordance with the requirements contained in 40 CFR 403.12(g)(2). The initial resample is typically performed by the IU. Once the facility has returned to consistent compliance as demonstrated by follow-up self-monitoring, the POTW typically performs 4-consecutive business days of follow-up monitoring to confirm compliance.

- **Compliance Schedule Sampling**
  IUs found to be in significant non-compliance for three successive quarters are generally put on an intensive monitoring schedule or a compliance schedule. Such monitoring is conducted at the IUs expense by an outside contractor hired by the POTW or the contributing jurisdiction in which the IU is located.

- **Investigative Sampling**
  POTW staff during the course of an inspection or other situation may take investigative samples at any time where the inspector needs information on the composition of a waste stream or observes indications of potential non-compliance.

- **Revenue Sampling**

  POTW staff is responsible for collecting samples used to determine the strength of contributing waste streams for recovery of POTW operation and maintenance costs from the Partners. To determine the annual charges for each Partner, main trunklines for each contributing jurisdiction are monitored 14 days each year. Samples are taken once each month from ten main trunk lines. The days of revenue sampling are staggered so that at the end of the year, one or more samples have been collected on each day of the week. Chemical oxygen demand, suspended solids, and ammonia samples are used to determine the strength of contributing waste streams. In addition, the following pollutants or pollutant properties are typically monitored: Ag, As, Ca, Cd, Cl-, Cr, CN, Cu, Hg, Mg, Na, Ni, Pb, pH, Specific Conductance, Se, TDS, TTO and Zn.

<u>Quality Assurance</u>

- **Sample Scheduling**
  RWQCP staff generates the sampling schedule in coordination with the POTW Laboratory Personnel, taking into account laboratory and sampling staff schedules.

- **Sample Chain of Custody**
  Self-monitoring results submitted by IUs must be accompanied by a completed Chain of custody sheet. Chain of custody sheets must accurately document or reflect the details of each sampling event and at a minimum must contain the following information for each sample taken:

  i. The date, time, exact location, and method of sampling.

1. If composite samples are taken with an automatic sampler, the sample date/time must specify the start date/time, the end date/time, and the sample collection date/time;
2. The date/time of each grab sample for multiple grab composites;

ii. The sample bottle/container type;
iii. The preservative used in each bottle/container;
iv. The date/time of sample preservation and pH analysis;
v. Indication if sample was stored and transported with cooling;
vi. The pollutant or pollutant properties to be analyzed;
vii. For cyanide samples an indication that oxidants were tested for and if present neutralized prior to sample preservation;
viii. For TTO samples taken, an indication that an approved neutralizing agent such as sodium thiosulfate was added to the sample if oxidants were present;
ix. Names and signatures of the person or persons taking the samples; and
x. Indication if sampling container(s) were sealed with custody seals.

In addition, the following information shall be submitted for each sample taken:

xi. Certified laboratory sampling analysis results;
xii. The analytical techniques/methods used for sample analysis;
xiii. The dates the laboratory analysis were performed;
xiv. Who performed the laboratory analysis;
xv. For grab samples, the volume of wastewater discharged through the sampling location on the day of sampling; and
xvi. For composite samples, the volume of wastewater discharged at the point of sampling between the sample start and end times.

F.3 Enforcement Response Plan Implementation

The City of Palo Alto and the City of Mountain View both have their own Enforcement Response Plans (ERP). These plans describe how noncompliance with IU discharge permits, local Sewer Use Ordinances, and/or the National Pretreatment Standards is addressed. The RWQCP ERP was first approved in 1991 with subsequent revisions in 1996, 2002, 2010, 2013, and 2017.

G. UPDATED LIST OF REGULATED SIUs

G.1 Categorical Industrial Users

FACILITY NAME & ADDRESS	QTR	INSPECTIONS	SAMPLING EVENTS POTW	SAMPLING EVENTS IU	COMPLIANCE STATUS	ENFORCEMENT ACTIONS VW	WL	NON	CA	FINE	CIV	APPLICABLE LIMITS
Applied Nanostructures, Inc.	1		3		CC							Table G.5-2
415 Clyde Avenue, Unit 102-104 Mountain View, CA 94043	2		3	1	CC							
Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)	3	1	3		CC							
	4		3	1	CC							
Cal Spray, Inc.	1		3		CC							Table G.5-1
1905 Bay Road East Palo Alto, CA 94303	2	1	3	1	IC			1				
Metal Finishing Point Source Category 40 CFR 433.15 (PSES)	3		3	1	CC							
	4	1	3	1	CC							
Communications & Power Industries, LLC	1		6	9	IC			1				Table G.5-2
811 Hansen Way Palo Alto, CA 94304	2	1	6	11	IC			1				
Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)	3		8	15	IC					1		
	4	1	7	9	CC							
Hammon Plating Corporation	1	3	14	19	IC			1				Table G.5-1
890 Commercial Street Palo Alto, CA 94303	2	1	16	36	CC							
Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)	3		6	19	IC			1				
	4	2	9	20	IC							
Space Systems/Loral, LLC	1	Permit closed in Q1 2018		Zero process discharge. No self-monitoring required.	CC							Table G.5-2
1034/1036 E. Meadow Circle Palo Alto, CA 94303	2											
Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)(Zero Discharge)	3											
	4											

G.1 Categorical Industrial Users (continued)

FACILITY NAME & ADDRESS	QTR	INSPECTIONS	SAMPLING EVENTS		COMPLIANCE STATUS	ENFORCEMENT ACTIONS						APPLICABLE LIMITS
			POTW	IU		VW	WL	NON	CA	FINE	CIV	
Space Systems/Loral, LLC 3825 Fabian Way Palo Alto, CA 94303 Metal Finishing Point Source Category 40 CFR 433.15 (PSES) Electrical and Electronic Component Point Source Category 40 CFR 469.18 (PSNS)	1		14	12	IC	1						Table G.5-1 Table G.5-3
	2	1	15	13	CC							
	3	1	16	12	CC							
	4		12	14	CC							
Teledyne Microwave 1274 Terra Bella Avenue Mountain View, CA 94043 Metal Finishing Point Source Category 40 CFR 433.15 (PSES)(Zero Discharge)	1	1		Zero process discharge. No self-monitoring required.	CC							Table G.5-1
	2				CC							
	3				CC							
	4				CC							

Note: All SIUs within the RWQCP service area are required to submit a Toxic Organics Management Plan for RWQCP review/approval prior to obtaining an Industrial Waste Discharge permit.

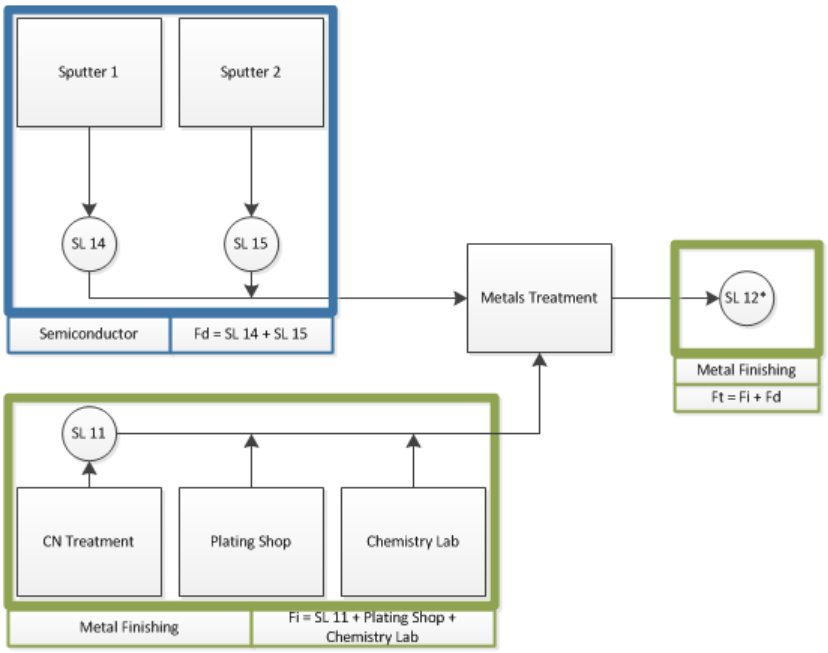
G.2 Categorical Industrial User Additions/Removals 2017

In 2018, no categorical industrial users were added to the list of SIUs submitted in the previous annual report. Space Systems/Loral, LLC's 1034/1036 East Meadow Circle facility closed during the first quarter of 2018.

G.3 Applicable Combined Waste Stream Formula Calculations

Space Systems/Loral, LLC's 3825 Fabian Way facility located in Palo Alto is the only CIU in the RWQCP service area regulated using the combined waste stream formula to determine discharge limits. The alternative discharge limits for the facility were calculated using the following information and figures:

Facility Block Flow Diagram



Combined Waste Stream Formula Calculations

$$C_T = \left(\frac{\sum_{i=1}^{N} C_i F_i}{\sum_{i=1}^{N} F_i}\right)\left(\frac{F_T - F_D}{F_T}\right) = C_i\left(\frac{F_T - F_D}{F_T}\right)$$

Maximum for any 1 day:

$$C_{T(Cd)} = \left(\frac{(0.69\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.69\ \text{mg/L})(0.556) = 0.38\ \text{mg/L Cd}$$

$$C_{T(Cr)} = \left(\frac{(2.77\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (2.77\ \text{mg/L})(0.556) = 1.54\ \text{mg/L Cr}$$

$$C_{T(Cu)} = \left(\frac{(3.38\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (3.38\ \text{mg/L})(0.556) = 1.88\ \text{mg/L Cu}$$

$$C_{T(Pb)} = \left(\frac{(0.69\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.69\ \text{mg/L})(0.556) = 0.38\ \text{mg/L Pb}$$

$$C_{T(Ni)} = \left(\frac{(3.98\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (3.98\ \text{mg/L})(0.556) = 2.21\ \text{mg/L Ni}$$

$$C_{T(Ag)} = \left(\frac{(0.43\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.43\ \text{mg/L})(0.556) = 0.24\ \text{mg/L Ag}$$

$$C_{T(Zn)} = \left(\frac{(2.61\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (2.61\ \text{mg/L})(0.556) = 1.45\ \text{mg/L Zn}$$

$$C_{T(CN)} = \text{N/A}$$

$$C_{T(TTO)} = \left(\frac{(2.13\ \text{mg/L})(789\ \text{gpd}) + (1.37\ \text{mg/L})(630\ \text{gpd})}{1{,}419\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 0\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = 1.79\ \text{mg/L TTO}$$

Monthly average shall not exceed:

$$C_{T(Cd)} = \left(\frac{(0.26\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.26\ \text{mg/L})(0.556) = 0.14\ \text{mg/L Cd}$$

$$C_{T(Cr)} = \left(\frac{(1.71\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (1.71\ \text{mg/L})(0.556) = 0.95\ \text{mg/L Cr}$$

$$C_{T(Cu)} = \left(\frac{(2.07\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (2.07\ \text{mg/L})(0.556) = 1.15\ \text{mg/L Cu}$$

$$C_{T(Pb)} = \left(\frac{(0.43\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.43\ \text{mg/L})(0.556) = 0.24\ \text{mg/L Pb}$$

$$C_{T(Ni)} = \left(\frac{(2.38\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (2.38\ \text{mg/L})(0.556) = 1.32\ \text{mg/L Ni}$$

$$C_{T(Ag)} = \left(\frac{(0.24\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (0.24\ \text{mg/L})(0.556) = 0.13\ \text{mg/L Ag}$$

$$C_{T(Zn)} = \left(\frac{(1.48\ \text{mg/L})(789\ \text{gpd})}{789\ \text{gpd}}\right)\left(\frac{(1{,}419\ \text{gpd} - 630\ \text{gpd})}{1{,}419\ \text{gpd}}\right) = (1.48\ \text{mg/L})(0.556) = 0.82\ \text{mg/L Zn}$$

$$C_{T(CN)} = \text{N/A}$$

$$C_{T(TTO)} = \text{N/A}$$

G.3 Applicable Combined Waste Stream Formula Calculations (continued)

Alternative Concentration Limits Summary Table

Pollutant or pollutant property		Maximum for any 1 day (C_i)(mg/L)		Monthly average shall not exceed (C_i)(mg/L)		Average daily flow (F_{i1}) of stream i_1 (gpd)	Average daily flow (F_{i2}) of stream i_2 (gpd)	Average daily flow dilution streams (F_D) (gpd)	Average daily total flow through combined treatment (F_T)(gpd)	Alternative concentration limit (C_T)(mg/L) for 433.15 at SL 12	
433.15	469.18	433.15	469.18	433.15	469.18	433.15	469.18			Maximum for any 1 day	Monthly average shall not exceed
Cd		0.69		0.26		789		630	1,419	0.38	0.14
Cr		2.77		1.71		789		630	1,419	1.54	0.95
Cu		3.38		2.07		789		630	1,419	1.88	1.15
Pb		0.69		0.43		789		630	1,419	0.38	0.24
Ni		3.98		2.38		789		630	1,419	2.21	1.32
Ag		0.43		0.24		789		630	1,419	0.24	0.13
Zn		2.61		1.48		789		630	1,419	1.45	0.82
CN[2]		1.20		0.65		97		1,322	1,419	N/A	N/A
TTO[3]	TTO	2.13	1.37			789	630		1,419	1.79	N/A

[1] There is no Maximum for any 1 day or 30 consecutive day average for Cd, Cr, Cu, Pb, Ni, Ag, Zn, or CN for 40 CFR 469.18.
[2] 433.15 CN is sampled at Sampling Location 11 immediately downstream from CN pretreatment prior to mixing with other streams.
[3] For TTO, there is no monthly or 30 consecutive day average limits in 40 CFR 433.15 or 40 CFR 469.18.
[4] Flow data used: April 30, 2015 – October 31, 2015.

G.4 Non-categorical Significant Industrial Users

FACILITY NAME & ADDRESS	QTR	INSPECTIONS	SAMPLING EVENTS		COMPLIANCE STATUS	ENFORCEMENT ACTIONS						APPLICABLE LIMITS
			POTW	IU		VW	WL	NON	CA	FINE	CIV	
City of Mountain View Landfill 3070 North Shoreline Boulevard Mountain View, CA 94043 SIC 4953 Closed Landfill	1			2	CC							
	2	1	3		CC							
	3			2	IC			1				
	4		5	1	CC							
NASA Ames Research Center Mail Stop 204-15 Moffett Field, CA 94035 SIC 9661 Space Research & Technology	1		5	12	CC							
	2	1		10	CC							
	3		5	9	CC							
	4	1		7	CC							

G.5 Non-categorical SIU Additions/Removals 2017

In 2018, no non-categorical significant industrial users were added or removed from the list of non-categorical significant industrial users submitted in the previous annual report.

G.6 Federal Categorical Standards

TABLE G.6-1

Metal Finishing Point Source Category 40 CFR 433.15 (PSES)		**Applicable CIUs:** Cal Spray, Inc. Space Systems/Loral, LLC
Parameter	**Maximum for any 1 day (mg/L)**	**Monthly average shall not exceed (mg/L)**
Cadmium (T)	0.69	0.26
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	

TABLE G.6-2

Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)		**Applicable CIUs:** Applied Nanostructures, Inc. Communications & Power Industries, LLC Hammon Plating Corporation
Parameter	**Maximum for any 1 day (mg/L)**	**Monthly average shall not exceed (mg/L)**
Cadmium (T)	0.11	0.07
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	

TABLE G.6-3

Electrical and Electronic Components Point Source Category 40 CFR 469.18 (PSNS)		**Applicable CIUs:** Space Systems/Loral, LLC
Parameter	**Maximum for any 1 day (mg/L)**	**Monthly average shall not exceed (mg/L)**
TTO	1.37	

TABLE G.6-4

Alternative Concentration Limits for Space Systems/Loral, LLC 40 CFR 433.15 (PSES)		**Applicable CIUs:** Space Systems/Loral, LLC
Parameter	**Maximum for any 1 day (mg/L)**	**Monthly average shall not exceed (mg/L)**
Cadmium (T)	0.38	0.14
Chromium (T)	1.54	0.95
Copper (T)	1.88	1.15
Lead (T)	0.38	0.24
Nickel (T)	2.21	1.32
Silver (T)	0.24	0.13
Zinc (T)	1.45	0.82
Cyanide (T)	N/A	N/A
TTO	1.79	N/A

TABLE G.6-5

Local Copper Limits for Metal Finishing & Electroplating Facilities Palo Alto Municipal Code 16.09.045		**Applicable CIUs:** Communications & Power Industries, LLC
Parameter	**Annual Average Limit (mg/L)**	**Annual Average Mass Limit (lb/yr)**
Cu	N/A	10.18

TABLE G.6-6

Local Copper Limits for Metal Finishing & Electroplating Facilities Palo Alto Municipal Code 16.09.045		**Applicable CIUs:** Hammon Plating Corporation
Parameter	**Annual Average Limit (mg/L)**	**Annual Average Mass Limit (lb/yr)**
Cu	0.40	N/A

G.7 Local Limits

Local Discharge Limits and Analytical Detection Levels

Pollutants	Local Maximum Limits[1] (mg/l)	Maximum Allowable Analytical Detection Levels (mg/l)
Arsenic	0.1	0.01
Barium	5.0	0.5
Beryllium	0.75	0.075
Boron	1.0	0.1
Cadmium	0.1	0.01
Chromium, Hexavalent	1.0	0.1
Chromium, total	2.0	0.2
Cobalt	1.0	0.1
Copper	0.25[2]	0.025
Cyanide	0.5	0.05
Dissolved Sulfides	0.1	0.01
Fluoride	65	6.5
Formaldehyde	5.0	0.5
Lead	0.5	0.05
Manganese	1.0	0.1
Mercaptans	0.1	0.01
Mercury	0.01	0.001
Methyl Tertiary Butyl Ether (MTBE)	0.75	0.075
Nickel	0.5	0.05
Phenols	1.0	0.1
Selenium	1.0	0.1
Silver	0.25	0.025
Single Toxic Organic	0.75	0.075
Total Toxic Organics	1.0	0.1
Zinc	2.0[3]	0.2
Conventional Pollutants	**Local Maximum Limit**	**Maximum Allowable Analytical Detection Levels (mg/l)**
Oil and Grease[4]	20 mg/l	2
Oil and Grease (total)	200 mg/l	20
Suspended Solids	3,000[5] mg/l	300
Total Dissolved Solids	5,000[6] mg/l	500
Conventional Pollutant	**Local Minimum Limit**	**Local Maximum Limit**
pH	5.0	11.0

[1]For discharges with annual average flows greater than fifty thousand gallons per day through any single sampling location, the maximum allowable limits shall be one-half the values listed in the table, with the exception of copper, mercury, MTBE, nickel, and silver, for which the limits shall remain 0.25 mg/L, 0.010 mg/L, 0.75 mg/L, 0.50 mg/L, and 0.25 mg/L, respectively, regardless of flow.
[2]The local maximum copper limit for cooling system discharges less than 2,000 gpd, Vehicle Services, Photoprocessing, Machine Shops shall be 2.0 mg/L. See Section 16.09.045 of the Sewer Use Ordinance for details and for metal finisher requirements.
[3]The local maximum zinc limit for vehicle service facilities shall be 4.0 mg/L.
[4]Gravity separation at a temperature of 20°C, and a pH of 4.5.
[5]Applies to composite samples only. The local maximum limit for instantaneous samples shall be 6,000 mg/L.
[6]Applies to composite samples only. The local maximum limit for instantaneous samples shall be 10,000 mg/L.

H. SIU COMPLIANCE ACTIVITIES

H.1 Inspection and Sampling Summary

See Tables G.1 and G.4 for a summary of all the SIU inspections and sampling activities conducted by RWQCP and sampling activites conducted by each SIU in 2018.

H.2 Enforcement Summary

See Tables G.1 and G.4 for a summary of SIU compliance and enforcemnt activities during 2018. Details regarding specific SIU noncompliance and enforcement actions can be found in Tables H.2-1 through H.2-5 below.

TABLE H.2-1

FACILITY NAME & ADDRESS	DATE	SAMPLED BY	FLOW (gpd)	PARAMETER/ VIOLATION	RESULT (mg/L)	LIMIT (mg/L)		ENFORCEMENT	
						LOCAL	FEDERAL	DATE	ACTION
Cal Spray, Inc. 1905 Bay Road East Palo Alto, CA 94303 Metal Finishing Point Source Category 40 CFR 433.15 (PSES)	06/30/2018	IU		Failure to Sample				07/24/2018	NON
NON issued on 7/24/2018 in response to IU's failure to correctly perform second quarter self-monitoring at Sampling Location 1. The 7/24/2018 NON required investigation of the cause, implementation of corrective measures to prevent reoccurrence, and collection of required second quarter samples in the third quarter of 2018. Analytical results and letter required by 7/24/2018 NON received on 8/23/2018 demonstrating compliance.									

TABLE H.2-2

FACILITY NAME & ADDRESS	DATE	SAMPLED BY	FLOW (gpd)	PARAMETER/ VIOLATION	RESULT (mg/L)	LIMIT (mg/L)		ENFORCEMENT	
						LOCAL	FEDERAL	DATE	ACTION
Communications & Power Industries, LLC 811 Hansen Way Palo Alto, CA 94304 Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)	01/09/2018 04/17/2018 07/10/2018	IU		Failure to preserve sample within 15 minutes				08/29/2018	NON
	03/31/2018	IU		Failure to sample				06/18/2018	NON

NON issued on 6/18/18 in response to IU's failure to perform required first quarter self-monitoring at Sampling Location 1, requiring IU to perform the missed first quarter 2018 self-monitoring during the second quarter of 2018.

NON issued on 8/29/2018 in response to IU's failure to preserve cyanide samples within 15-minutes of collection when performing permit required first, second, and third quarter 2018 sampling events at Sampling Locations 1 and 2. IU required to collect cyanide samples at Sampling Locations 1 and 2 for three consecutive business days and submit a letter detailing the cause of the noncompliance and corrective measures put in place to prevent reoccurrence. An administrative citation which included a $1,000 monetary penalty was also issued.

IU response required by 8/29/2018 NON received on 10/1/2018 indicating IU performed additional employee training on proper cyanide sample preservation techniques. Additionally, IU submitted documentation of the employee training along with laboratory analytical results for the three consecutive business days of cyanide samples at Sampling Locations 1 and 2 which demonstrated compliance. The administrative citation monetary penalty of $1,000 was paid on 9/26/2018.

TABLE H.2-3

FACILITY NAME & ADDRESS	DATE	SAMPLED BY	FLOW (gpd)	PARAMETER/ VIOLATION	RESULT (mg/L)	LIMIT (mg/L)		ENFORCEMENT	
						LOCAL	FEDERAL	DATE	ACTION
Hammon Plating Corporation 890 Commercial Street Palo Alto, CA 94303 Metal Finishing Point Source Category 40 CFR 433.17 (PSNS)	03/14/2018	POTW		Cyanide not segregated				03/14/2018	NON
	08/27/2018	POTW	1,028	Cyanide	0.754	0.5		10/03/2018	NON
	11/07/2018	POTW	1,028	Cyanide	0.617	0.5			Pending

NON issued on 3/14/2018 in response to IU's failure to properly segregate cyanide bearing wastestreams from non-cyanide bearing wastestreams prior to cyanide pretreatment, requiring investigation of the cause and implementation of corrective actions to prevent reoccurrence.

IU response required by 3/14/2018 NON received on 4/23/18 indicating that IU performed additional employee environmental training related to cyanide segregation.

NON issued on 10/3/2018 in response to 8/27/2018 cyanide violation at Sampling Location 5, requiring investigation the cause and implementation of corrective measures to prevent reoccurrence.

IU response required by 10/3/2018 NON received on 10/9/2018 outlining IU's investigation into the cause of the cyanide violation and corrective measures put in place to prevent reoccurrence.

Enforcement action will be taken in the first quarter of 2019 in response to 11/7/2018 cyanide violation at Sampling Location 5.

TABLE H.2-4

FACILITY NAME & ADDRESS	DATE	SAMPLED BY	FLOW (gpd)	PARAMETER/ VIOLATION	RESULT (mg/L)	LIMIT (mg/L)		ENFORCEMENT	
						LOCAL	FEDERAL	DATE	ACTION
Space Systems/Loral, LLC 3825 Fabian Way Palo Alto, CA 94303 Metal Finishing Point Source Category 40 CFR 433.15 (PSES) Electrical and Electronic Component Point Source Category 40 CFR 469.18 (PSNS)	02/26/2018	POTW	12	pH	4.3	5-11		02/26/2018	Verbal Warning
Verbal Warning issued on 2/26/18 in response to 2/26/18 pH violation at Sampling Location 10.									

TABLE H.2-5

FACILITY NAME & ADDRESS	DATE	SAMPLED BY	FLOW (gpd)	PARAMETER/ VIOLATION	RESULT (mg/L)	LIMIT (mg/L)		ENFORCEMENT	
						LOCAL	FEDERAL	DATE	ACTION
City of Mountain View Landfill 3070 North Shoreline Boulevard Mountain View, CA 94043 SIC 4953 Closed Landfill	09/28/2018	IU		Cu	0.27	0.25		09/28/2018	NON
NON issued on 9/28/2018 in response to IU's 9/28/2018 copper violation at Sampling Location 4 requiring three business days of follow-up monitoring for copper. Analytical results for the three days of follow-up copper self-monitoring required by 9/28/18 NON received on 11/8/2018 demonstrating compliance.									

I. BASELINE MONITORING REPORT UPDATE

No new CIUs were added to the Pretreatment Program since the last annual report.

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J. PRETREATMENT PROGRAM CHANGES

Legal Authority

No changes were made to the Pretreatment Program's legal authority during the past year.

Local Limits

No changes were made to the Pretreatment Program's local limits during the past year.

Monitoring/Inspection Program and Frequency

No changes were made to the Pretreatment Program's monitoring/inspection program and frequency during the past year.

Enforcement Protocol

No changes were made to the Pretreatment Program's Enforcement Response Plan during the past year.

Program's Administrative Structure

No changes were made to the Pretreatment Program's administrative structure during the past year.

Staffing Level

No changes were made to the Pretreatment Program's staffing level during the past year.

Resource Requirements

No changes were made to the Pretreatment Program's resource requirements during the past year.

Funding Mechanism

No changes were made to the Pretreatment Program's funding mechanism during the past year.

Organizational Chart

No changes were made to the Pretreatment Program's management structure during the past year.

Program Modifications

The RWQCP is currently in the process of revising its Sewer Use Ordinance and Enforcement Response Plan. The proposed Sewer Use Ordinance amendment removes stormwater and FOG

requirements from the Sewer Use Ordinance and relocates same into their own chapters of Palo Alto Municipal Code, incorporates two optional EPA Streamlining Rule provisions, modifies existing Pretreatment Program definitions, clarifies permitting procedures and reporting requirements for industrial users, and makes other technical and conforming changes to better align the Sewer Use Ordinance with the EPA Model Pretreatment Ordinance. The proposed amendment also includes updated language to conform to the requirements of the recently promulgated Dental Office Point Source Category. The RWQCP plans to update its Enforcement Response Plan to incorporate any changes made to the Sewer Use Ordinance.

K. PRETREATMENT PROGRAM BUDGET

While the Pretreatment Program is a multi-jurisdictional program, most industrial and commercial dischargers are located within the cities of Palo Alto and Mountain View. Palo Alto Pretreatment Program staff include the Watershed Protection Manager, one Program Manager, two Associate Engineers, and three Industrial Waste Inspectors.

Mountain View operates a portion of the RWQCP Pretreatment Program. Mountain View's Environmental Protection Division staff include one Manager, one Senior Inspector, one Water Environment Specialist, and one Environmental and Safety Protection Inspector.

RWQCP regulates one CIU in the East Palo Alto Sanitary District. Palo Alto Pretreatment Program staff conducts sampling and inspections at this facility, creates discharge permits, and issues enforcement actions. EPASD finalizes and issues industrial waste discharge permits.

During Fiscal Year 2018 (July 1, 2017 – June 30, 2018), the total budget for the RWQCP Pretreatment Program was $1,744,730. Funding for the Pretreatment Program is provided by the RWQCP Partner Agencies, with costs apportioned among the Partner Agencies based upon total industrial discharge volume or plant capacity allocation. Additional details regarding Pretreatment Program expenses is available upon request.

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L. PUBLIC PARTICIPATION SUMMARY

RWQCP did not find any Industrial Users in Significant Noncompliance with applicable Pretreatment Requirements during 2018 and therefore did not publish any Notices of Significant Noncompliance in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by RWQCP during 2018.

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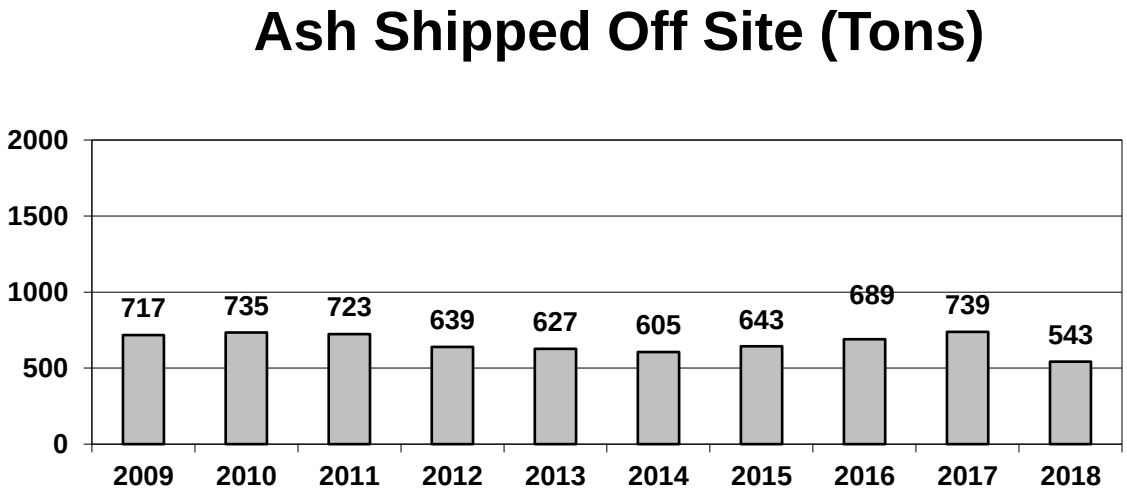
M. BIOSOLIDS STORAGE AND DISPOSAL PRACTICES

Solids from primary sedimentation tanks and aeration tanks are sent to the sludge thickening facilities, gravity-thickened, and dewatered by belt presses. Currently, thickened and dewatered solids are incinerated in one of two multiple hearth incinerators, ash is hauled offsite to a hazardous waste landfill, and belt press filtrate, scrubber water, and other flows from the incinerator building are returned to the plant headworks. Approximately 543 tons of ash was shipped offsite in 2018. Upon completion of the Biosolids Conversion Project (estimated completion early 2019), the solids will be hauled offsite for additional treatment and disposal, and belt press filtrate will be returned to the plant headworks. The Biosolids Conversion Project includes construction of a sludge dewatering and truck loadout facility and replacement of the sewage sludge incinerators with a new biosolids handling system.



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N. OTHER POLLUTANT REDUCTION ACTIVITIES

N.1 Dental Offices

In May of 2004, the Palo Alto Sewer Use Ordinance (SUO) was revised requiring dental offices that place or remove dental amalgam to install amalgam separators by March 31, 2005. The City of Mountain View adopted a similar sewer use ordinance provision for dental offices. Initial inspections following adoption of the ordinance were conducted at all applicable dental offices within the RWQCP service area to confirm compliance with the dental amalgam separator requirements in the SUO.

Dental offices that place or remove dental amalgam are required to submit an annual certification form detailing their operations and waste handling procedures. In 2018, 100 percent of applicable dental offices certified that they were in compliance with the amalgam separator requirements. Each year approximately 20 percent of applicable dental offices within the RWQCP service area are inspected in an attempt to inspect 100 percent of dental offices within the service area every five years. In 2018, Program staff inspected 35 dental offices and confirmed that required BMP's were in place and that amalgam separators were properly maintained.

N.2 Fats, Oils and Grease (FOG) Program

The Environmental Services Division (ESD) has maintained a food service establishment (FSE) FOG Control Program (FOG Program) in Palo Alto since 1996.

Additional FOG Program details can be found in the 2019 Clean Bay Plan.

N.3 Industrial Waste Discharge Permits

The RWQCP issues Industrial Waste Discharge Permits to IUs located in the City of Palo Alto; the Town of Los Altos Hills; and the Stanford University campus. The cities of Mountain View and Los Altos, and the East Palo Alto Sanitary District issue discharge permits to IUs within their respective jurisdictions.

The Pretreatment Program issues several types of Industrial Waste Discharge Permits to industrial facilities dependent upon facility type, operations, discharge characteristics and flow rates. Industrial Waste Discharge Permits are also issued to dischargers of pretreated contaminated groundwater to the sanitary sewer and Exceptional Waste Discharge Permits may be issued for short duration discharges such as construction site dewatering or other one-time discharges.

Effective August 20, 2018, the City of Palo Alto replaced its Discharge Permit Application Fees, which were billed once per permit cycle, with Industrial Waste Discharge Fees for commercial and industrial users, which are billed annually. The Industrial Waste Discharge Fees were established to recover costs associated with operating the Program. The City of Mountain View

and EPASD do not require IUs to pay an application or permit fee. The City of Palo Alto Fiscal Year 2019 Adopted Municipal Fee Schedule has established the following application fees:

- Industrial Waste Discharge – Automotive: $529.00 (annually)
- Industrial Waste Discharge – Basic: $3,105.00 (annually)
- Industrial Waste Discharge – Best Management Practices (BMP): $1,162.00 (annually)
- Industrial Waste Discharge – Exceptional Waste (High volume): $5,523.000 (per permit)
- Industrial Waste Discharge – Exceptional Waste (Low volume): $3,131.00 (per permit)
- Industrial Waste Discharge – Full (Categorical): $$7,063.00 (annually)
- Industrial Waste Discharge – Full (Non-categorical): $$4,510.00 (annually)
- Industrial Waste Discharge – Groundwater: $1,188.00 (annually)

N.4 New Industrial Waste Discharge Permits

In 2018, one Industrial Waste Discharge Permit was issued to a new IU within the RWQCP service area.

N.5 Industrial Waste Discharge Permit Renewals

In 2018, three Industrial Waste Discharge Permits were renewed in Palo Alto, 15 Industrial Waste Discharge Permits were renewed in Mountain View, and one Industrial Waste Discharge Permit was renewed in the East Palo Alto Sanitary District.

N.6 Public Information and Awareness Programs

The RWQCP keeps interested parties aware of its pollution prevention activities through its website (www.cleanbay.org), Plant tours, fact sheets, brochures, and through other outreach mechanisms. Citizens are given updates on Plant activities at public meetings and at other public events such as Earth Day, California Coastal Cleanup Day, and National River Cleanup Day.

Details regarding RWQCP pollution prevention and outreach programs can be found in the 2019 Clean Bay Plan.

N.7 Contaminated Groundwater

During 2018, five permitted groundwater dischargers in the RWQCP service area discharged a total of 5.4 million gallons of pretreated contaminated groundwater into the sanitary sewer. Prior to issuance of each Groundwater Discharge Permit, the applicant must submit a Water Reuse Study to the RWQCP. Groundwater Discharge Permits may include monitoring requirements for metals, total toxic organics (TTO), and total extractable and purgeable petroleum hydrocarbons. Monitoring may also be required for total dissolved solids and chloride, due to their impact on the RWQCP's wastewater reclamation program. Groundwater dischargers, except for construction dewatering, submit a Periodic Report of Continued Compliance (PRCC) on January 15 and July 15 of each calendar year. The PRCC includes the discharger's compliance status during the reporting period, an enumeration of any violations which took place during the reporting period, the total volume of groundwater discharged during the reporting period, and

other information such as the treatment method, average and maximum flow rates, and percentage of groundwater reused.

The RWQCP encourages the reuse of groundwater and recognizes the impact of groundwater discharges on the Plant. However, permits will continue to be issued to those dischargers who demonstrate a lack of reuse alternatives as long as Plant capacity is available.

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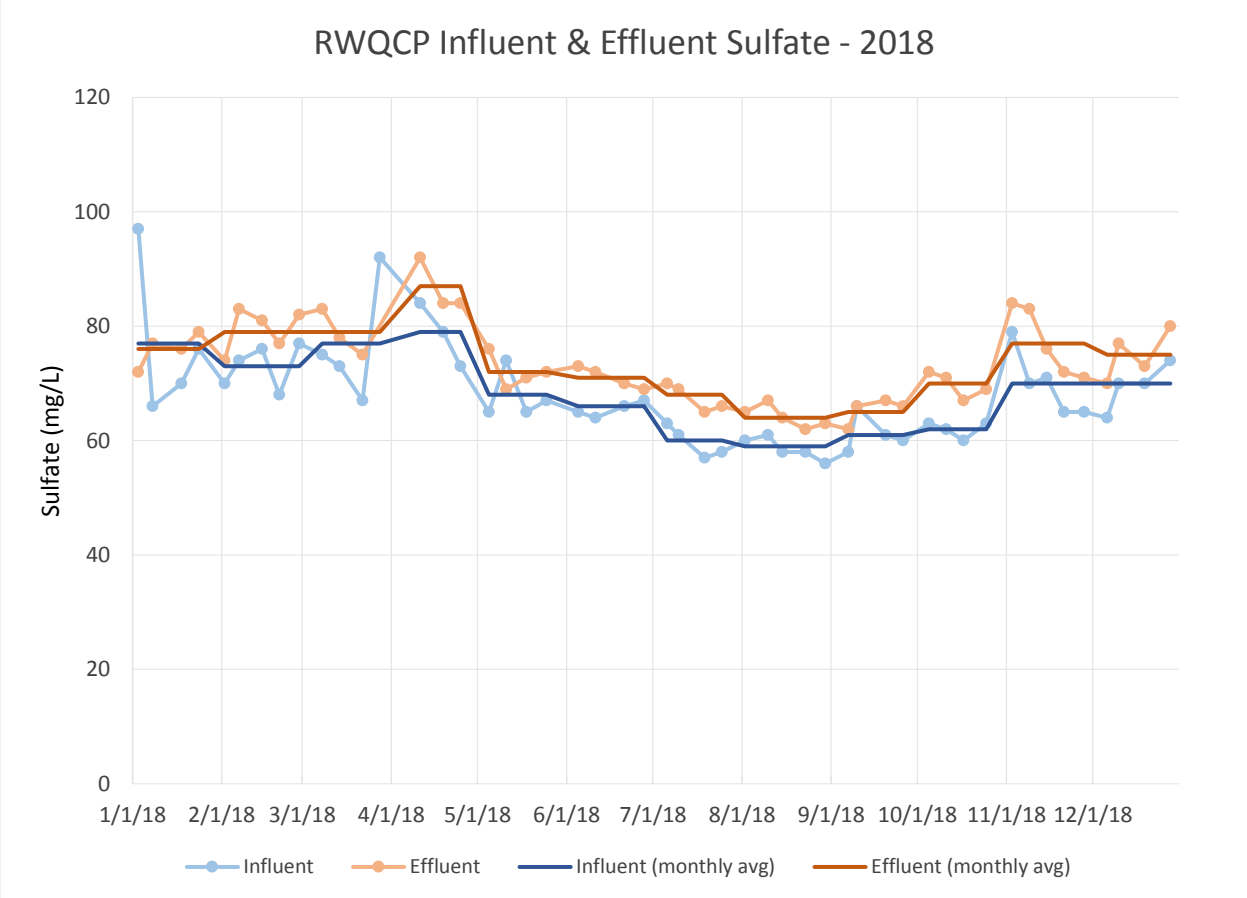
O. OTHER SUBJECTS

O.1 Sulfate

In 2018, the Pretreatment Program began a study to monitor sulfate in the Plant's influent and effluent as well as in the Partner trunklines. Influent and effluent sulfate samples were collected weekly, and Partner trunkline sulfate samples were collected monthly. Investigation is still on-going, but preliminary data analysis suggests that sulfate concentrations generally decrease during the dry season, and increase during the wet season. Additional data collection, analysis, and sampling is currently underway to better understand the following:

- How does daily plant flow correlate with sulfate load?
- Where is sulfate released within the POTW and is it contributing to the formation of hydrogen sulfide and corrosion within the collection system or Plant?
- Do specific trunklines contribute more or less of the sulfate load to the Plant?
- Do large rainfall events increase the sulfate load?
- Can sulfate be used as an indicator to identify I & I?
- Do local water purveyors use sulfate compounds for treatment of potable water?



O.2 Gadolinium and Rare Earth Elements

In 2018, Program staff participated in an emerging contaminant study coordinated by the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP) to evaluate the fate of gadolinium (Gd) and other rare earth elements in wastewater treatment plant effluent. A previous study of RMP samples determined that Gd-based contrast agents used in magnetic resonance imaging (MRI) were a major source of anthropogenic Gd anomalies in San Francisco Bay. To be considered safe for administration to patients undergoing MRI, Gd must first be complexed into a stable molecule which can readily pass through the human body, and consequently also passes through conventional wastewater treatment processes. Program staff performed sediment and superficial water sampling for SFEI at multiple locations between the Plant outfall and the region where Plant effluent mixes with ambient water using ultra clean sampling techniques. 24-hour composite influent and effluent samples were also collected. RWQCP participation in this project lasted approximately six months.

P. PERMIT COMPLIANCE SYSTEM (PCS) DATA ENTRY FORM

PPS1

POTW Name: Palo Alto Regional Water Quality Control Plant

NPDES Permit #: CA0037834

Period Covered By This Report: 1/1/2018 (PSSD) 12/31/2018 (PSED)

Number of Significant Industrial Users in SNC with Pretreatment Compliance Schedule:	0 (SSNC)
Number of Notices of Violation and Administrative Orders Issued Against Significant Industrial Users:	6 (FENF)
Number of Civil & Criminal Judicial Action Against Significant Industrial Users:	0 (JUDI)
Number of Significant Industrial Users with Significant Violations Published:	0 (SVPU)
Number of Industrial Users From Which Penalties Have Been Collected:	1 (IUPN)

Appendix 1. 2017 PCI Response

PUBLIC WORKS
CITY OF PALO ALTO
2501 Embarcadero Way
Palo Alto, CA 94303
650.329.2598

COPY

April 26, 2018

Michael Chee
Pretreatment Program Coordinator
San Francisco Bay Regional Water Quality Control Board
1515 Clay St., Suite 1400
Oakland, CA 94612

Dear Mr. Chee:

This letter comprises our response to the pretreatment compliance inspection (PCI) report for the City of Palo Alto's Pretreatment Program PCI that was conducted on June 22, 2017 and your transmittal letter dated February 20, 2018.

All requirements and recommendations have been addressed as described in the attached document.

If you have any questions, please contact James Stuart at (650) 329-2292.

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, 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,

Karin North
Manager, Watershed Protection Group

cc: Amelia Whitson, U.S. EPA Region 9

Response to the pretreatment compliance inspection (PCI) report for the City of Palo Alto's Pretreatment Program PCI that was conducted on June 22, 2017 and the RWQCB transmittal letter dated February 20, 2018.

Requirements

1. The City of Mountain View Landfill permit lists the sample type as a "24-hour composite", but does not specify that it must be a flow-proportional composite sample. Mountain View is required to revise the permit to specify that flow-proportional composite samples are required as specified in 40 CFR 403.12(g)(3). (Section 6.1, Sample Type)

Response: Mountain View staff addressed Requirement number 1 on April 25, 2018 by issuing a new discharge permit to City of Mountain View Landfill.

2. The federal regulations at 40 CFR 403.17(c) require all SIUs to notify the control authority of any bypass. If the industrial user knows in advance of the need for a bypass, the user shall submit prior notice to the City, at least ten days prior if possible. If an unanticipated bypass exceeds the applicable pretreatment standards, the user must submit an oral notification within 24 hours of becoming aware and written notice within five days of the time the user became aware of the bypass. The permits for Hammon Plating and the City of Mountain View Landfill require the permittees to notify the City verbally and in writing of an unauthorized bypass. This is inconsistent with the federal requirements, which do not condition reporting of bypasses on whether they are authorized. The City and Mountain View are required to revise the permits to require notification of all anticipated, and unanticipated, bypasses that exceed applicable pretreatment standards, pursuant to 40 CFR 403.17(c). (Section 6.2, Notification Requirements)

Response: Palo Alto staff addressed Requirement number 2 on April 19, 2018 by issuing a modified discharge permit to Hammon Plating Corporation.

Mountain View staff addressed Requirement number 2 on April 25, 2018 by issuing a new discharge permit to the City of Mountain View Landfill.

Recommendations

1. The City of Mountain View Landfill permit lists the sample type as a "24-hour composite", but does not specify that it must be a flow-proportional composite sample. It is recommended that Mountain View revise the permit to clarify that time-proportional sampling is allowed only when authorized in writing by Mountain View. (Section 6.1, Sample Type)

Response: Mountain View staff addressed Recommendation number 1 on April 25, 2018 by issuing a new discharge permit to the City of Mountain View Landfill, which authorizes time-proportional composite sampling. The decision to allow time-proportional composite sampling is documented in the industrial user file for the facility as required by 40 CFR 403.12(g)(3).

2. The federal regulations at 40 CFR 403.8(f)(1)(B)(3) require the District to include applicable effluent limits in the industrial user permits, based on categorical pretreatment standards, local limits, and state or local law. The copper local limit included in Hammon Plating's permit has a footnote which states, "…all reasonable control measures specified in accordance with standards published by the superintendent shall be installed and implemented." It is unclear which control measures are required to be installed and implemented. The inspection team recommends that the City specify which control measures shall be installed and implemented at Hammon Plating. (Section 6.3, Effluent Limits)

Response: Palo Alto staff addressed Recommendation number 2 on April 20, 2018 by modifying Hammon Plating Corporation's discharge permit to include a copy of the reasonable control measures published by the superintendent.

3. According to City personnel, the City inspects its SIUs semiannually. Mountain View conducts annual compliance inspections at its SIUs. The City was unsure whether the City's approved program requires semiannual compliance inspections at all SIUs. The inspection team recommends that the City review its program approval documents to determine whether the City is required to conduct compliance inspections twice per year at all SIUs. If the program does require semiannual compliance inspections, Mountain View is also required to conduct semiannual compliance inspections at its SIUs. (Section 7.2, Compliance Inspections)

Response: Palo Alto staff addressed Recommendation number 3 by reviewing its approved pretreatment program documents and determining that the City's approved program does not require semiannual compliance inspections at all SIUs.

4. During the site visit at Hammon Plating, the inspectors observed hazardous waste drums without accumulation dates. It is recommended that the City follow-up with Hammon Plating staff to ensure that all drums containing hazardous wastes are labeled with an accumulation date. (Section 7.3, Nondomestic Discharger Site Inspections Conducted during the PCI)

Response: Palo Alto staff addressed Recommendation number 4 by followed-up with Hammon Plating Corporation and by contacting the County of Santa Clara Department of Environmental Health (County) to investigate. The County visited the site and instructed Hammon on the hazardous waste labeling requirements pertaining to their site and operations.