

2PE00000

ORDINANCE NO. 155-13

Introduced by McLean Councilman
Seconded by Glenn Councilman
Form Approved Anty L G Director of Law
PUBLICATION: I hereby certify that Ord. No. _____ was published
in a summary manner according to law in the Lima News on _____

Sally Clemans, Clerk

**AN ORDINANCE AMENDING SECTION
1040.01 OF THE CODIFIED ORDINANCES OF
LIMA, OHIO.**

VOTE	1ST		2ND		3RD	
	Y	N	Y	N	Y	N
NEEPER						
McLEAN	✓					
LOWE	✓					
TEBBEN						
ADAMS	✓					
GLENN	✓					
TOWNSEND	✓					
NIXON	✓					
TOTAL	6	0				

WHEREAS, this Council desires to amend Section 1040.01 to revise the Definitions used in Chapter 1040 in order to comply with new USEPA rules; and,

WHEREAS, it is necessary to immediately enact this amendment in order to comply with USEPA rules, to preserve the public peace, property, health and safety, and to provide for the usual daily operation of the municipal government, and by reason thereof, this Ordinance shall take effect forthwith upon its passage; Now, therefore,

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LIMA, OHIO, WITH AT LEAST A MAJORITY OF THE MEMBERS ELECTED THERETO CONCURRING:

Section 1. Section 1040.01 Codified Ordinances of Lima, Ohio, is hereby amended as follows:

See attached Exhibit A for Section 1040.01 amendment

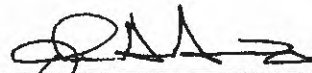
Section 2. Existing Section 1040.01 is hereby amended as set forth above, and any previous sections or ordinances in conflict herewith are hereby repealed.

Section 3. Council finds and determines that all formal actions of this Council and any of its committees concerning and relating to the adoption of this ordinance were taken in an open meeting and that all deliberations of this Council and of any of its committees that resulted in those formal actions were in meetings held in compliance with the law.

Section 4. The Clerk of Council be, and hereby is, authorized and directed to cause publication of this Ordinance to be made in a summary manner as provided by the City Charter.

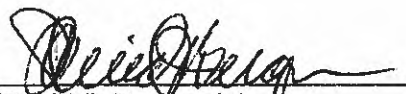
Section 5. This ordinance shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the first reading hereof. If it shall not so pass it shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the second reading hereof. If it shall not so pass at second reading then it shall take effect and be in force forthwith upon passage by an affirmative vote of at least a majority of the members elected to council at the third reading hereof. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

Passed: August 5, 2013

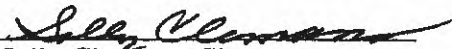


John G. Nixon, President

Approved: August 5, 2013



David J. Berger, Mayor

Attest: 

Sally Clemons, Clerk

Exhibit "A"

1040.01 DEFINITIONS.

As used in this chapter:

- (A) "Act" means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251 et seq.
- (B) "Best management practices" or "BMPs" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in OAC 3745-3-04. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage. *
- (C) "Biochemical oxygen demand" (BOD) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, as prescribed in 40 CFR, Part 136, in five days at 20°C, expressed in milligrams per liter.
- (D) "Building drain" means that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building, and conveys it to the building sewer, terminating five feet (1.5 meters) outside the inner face of the building wall.
- (E) "Building sewer or house connection" means the extension from the building drain to the public sewer or other place of disposal.
- (F) "Bypass" means the intentional diversion of waste streams from any portion of an industrial user's treatment facility.
- (G) "Chemical oxygen demand (COD)" means the quantity of oxygen equivalent to that portion of the organic matter in a sample of wastewater that is susceptible to oxidation by a strong chemical oxidant, as prescribed in 40 CFR, Part 136, expressed in milligrams per liter.
- (H) "Capital charges" mean those amounts paid by the owner of each structure connected to the treatment works, proportionate to the probable demand placed on the system to pay the debt service requirements and capital expenditures to enlarge or improve the wastewater facilities. Those structures outside the City shall have included in their capital charge an amount equivalent to the sum paid by the owners' property inside the City through assessments, taxes and investments in facilities already paid for by City residents.
- (I) "Categorical Standards" means National Categorical Pretreatment Standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to the treatment works of the City promulgated by the United States Environmental Protection Agency (USEPA) pursuant to the Act for specific industrial subcategories as listed in Appendix C of 40 CFR (Code of Federal Regulations), Part 403.
- (J) "Combined sewer" means a sewer intended to serve as a sanitary sewer and a storm sewer, or as an industrial sewer and a storm sewer.
- (K) "Commercial User" means retail or wholesale business establishments that discharge primary normal strength wastewater into the public wastewater treatment system, works and facility.
- (L) "Compatible pollutants" mean pollutants which the treatment plant was designed to treat, which are BOD, SS, phosphorus, ammonia (NH₃) and fecal coliform bacteria, plus additional pollutants identified in the NPDES

- permit if the publicly-owned treatment works was designed to treat such pollutants and in fact does remove such pollutants to a substantial degree.
- (M) "Connection charge" means that amount paid by the owner of each new or old structure to be connected to the treatment works.
- (N) "Director" means the Director of Utilities of the City, or his authorized agent or representative.
- (O) "Discharger" is used interchangeably with "user" and means those premises connected or required to be connected to the public sewer. "Discharger", where the context requires, means "person".
- (P) "Easement" means an acquired legal right for the specific use of land owned by others.
- (Q) "Floatable oil" means oil, fat or grease in a physical state such that it will separate by gravity from wastewater by treatment in an approved pretreatment facility. Wastewater shall be considered free of floatable fat if it is properly pretreated and does not interfere with the collection system.
- (R) "Garbage" means the animal and vegetable waste resulting from the handling, preparation, cooking and serving of foods.
- (S) "Incompatible pollutant" means any pollutant which is not compatible.
- (T) "Industrial user" (IU) shall include users discharging waste resulting from manufacturing activities involving the mechanical or chemical transformation of material or substance into other products. These activities occur in establishments usually described as plants, factories, or mills and characteristically use power-driven machines and material-handling equipment.
- (U) "Industrial wastes" mean the wastewater from industrial processes, trade or business as distinguished from domestic or sanitary wastes.
- (V) "Institutional/Governmental user" means hospitals, nursing homes, schools, city, county, state or federal buildings or facilities that discharge wastewater into the public wastewater treatment system, works and facility.
- (W) "Interference" means discharge which, alone or in conjunction with a discharge or discharges from other sources, both:
- (1) Inhibits or disrupts the POTW, its treatment processes, or operations, or its sludge processes, use or disposal; and
 - (2) Therefore is a cause of violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA); the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.
- (X) "Major addition or alteration" means the addition of 2,000 square feet or more to an existing structure or an alteration of an existing structure

which changes its use within the listing of equivalent factors set forth in Section 1040.08, and which also causes an increased discharge in the volume of wastewater.

- (Y) "May" is permissive.
- (Z) "Natural outlet" means any outlet, including the outlet of storm sewers, into a watercourse, pond, ditch, lake or other body of surface or groundwater which does not require an NPDES discharge permit.
- (AA) "New source" means any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that section, provided that:
 - (1) The building, structure, facility or installation is constructed at a site at which no other source is located; or
 - (2) The building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
 - (3) The production or wastewater generating processes of the building, structure, facility or installation are substantially independent of an existing source at the same site.
- (BB) "Nonindustrial user" means all users of the wastewater facilities not classified as an industrial user.
- (CC) "Non-significant Categorical User" means any industrial user who meets all of the following:
 - (1) Does not discharge more than 100 gallons per day of total categorical wastewater (does not include sanitary, non-contact cooling, and/or boiler blowdown wastewater unless it is specifically included in the categorical pretreatment standard) ; and
 - (2) does not discharge at any time any untreated concentrated wastewater which is regulated by categorical pretreatment standards
- (DD) "Non-significant industrial user" means any IU who meets all of the following:
 - (1) Does not discharge any wastes that could adversely affect the POTW;
 - (2) Does not discharge any wastes subject to categorical standards; and
 - (3) Does not meet any of the requirements listed under the "significant industrial user" definition
- (EE) "NPDES permit" means the National Pollutant Discharge Elimination System permit, as issued by the Ohio Environmental Protection Agency under authorization issued by the U.S. EPA, Region Five, March 11, 1974.
- (FF) "OEPA" means the Ohio Environmental Protection Agency.
- (GG) "Operation, maintenance and replacement costs" mean those costs, including labor, materials, supplies, equipment, accessories and appurtenances, required to operate the facilities, keep the facilities in operating condition and maintain the capacity and performance during the service life of the treatment works for which such works were designed and constructed.
- (HH) "Pass through" means a discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in

conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

- (II) "Person" means any individual, firm, company, partnership, association, society, corporation or group.
- (JJ) "pH" means the logarithm of the reciprocal of hydrogen ion concentration. The concentration is the weight of hydrogen ions, in grams, per liter of solution.
- (KK) "Phosphorus" means the total phosphorus content of a sample, including all of the orthophosphates and condensed phosphates, both soluble and insoluble, and organic and inorganic species, and referred to in 40 CFR Part 136 as total phosphorus.
- (LL) "POTW" means publicly-owned treatment works.
- (MM) "Pretreatment" means the reduction of the amount of pollutants, the elimination or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging such pollutants into the publicly-owned treatment works. The reduction or alteration can be obtained by physical, chemical or biological processes, by process changes, or by other means, except dilution.
- (NN) "Pretreatment standards" means any limitations or restrictions imposed upon the discharge to the sewer from non-domestic users, in order to prevent:
 - (1) Pass through;
 - (2) Interference;
 - (3) Harm to the sewers or treatment works;
 - (4) Adverse effect on the receiving stream;
 - (5) Inhibition of sludge disposal options;
 - (6) Violations of the NPDES limits;
 - (7) Endangerment of the health or safety of POTW workers or the public;
 - (8) Endangerment of public property; or
 - (9) Creation of a nuisance."Pretreatment standards" include categorical pretreatment standards and any local limitations and prohibitions established by the Director to fulfill the pretreatment program requirements contained in the City NPDES permit.
- (OO) "Properly shredded garbage" means the wastes from the preparation, cooking and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half inch (1.27 centimeters) in any dimension.
- (PP) "Public sewer" means a common sewer controlled by a governmental agency or public utility.
- (QQ) "Residential User" means a principal family residence or habitation classified as a single-family, multi-family, or apartment dwelling that discharges domestic sanitary wastewater having characteristics of 250 milligrams per liter biochemical oxygen demand and 200 milligrams per liter suspended solids into the public wastewater treatment system, works,

and facility.

- (RR) "Sanitary sewer" means a sewer that carries liquid and/or water-carried wastes from residences, commercial buildings, industrial plants and institutions, together with minor quantities of ground, storm and surface waters that are not admitted intentionally.
- (SS) "Segregated domestic wastes" means wastes which are characterized by a per capita discharge of 100 gallons per day at a loading of 200 mg/l BOD and 250 mg/l SS, commonly termed "normal domestic sewage."
- (TT) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss caused by delays in production.
- (UU) "Sewer" means a pipe or conduit that carries wastewater or drainage water.
- (VV) "Shall" is mandatory.
- (WW) "Significant industrial user" means:
 - (1) Except as provided in division B. of this definition, the term "significant industrial user" includes:
 - (a) All industrial users subject to categorical pretreatment standards; and,
 - (b) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW; contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or has a reasonable potential, in the opinion of the Director, to adversely affect the POTW's operation or for violating any pretreatment standard or requirement.
 - (c) The Director may at any time, on his own initiative or in response to a petition received from an industrial user, determine that a noncategorical industrial user is not a significant industrial user if the industrial user has no reasonable potential to adversely affect the POTW's operation or for violating any pretreatment standard or requirement.
- (XX) "Slug" means any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.
- (YY) "Storm drain" or "storm sewer" means a drain or sewer for conveying water, groundwater, subsurface water or unpolluted water from any source.
- (ZZ) "Suspended solids (SS)" mean total suspended matter that either floats on the surface of, or is in suspension in, water, wastewater or other liquids, and that is removable by laboratory filtering as prescribed in 40 CFR Part 136, and referred to as nonfilterable residue.
- (AAA) "Treatment works" mean any and all devices and systems used in

Introduced by McLean Councilman
 Seconded by Glenn Councilman
 Form Approved Anty C / G Director of Law
 PUBLICATION: I hereby certify that Ord. No. _____ was published
 in a summary manner according to law in the Lima News on _____

Sally Clemans, Clerk

**AN ORDINANCE AMENDING SECTION
 1040.12 OF THE CODIFIED ORDINANCES OF
 LIMA, OHIO.**

VOTE	1ST		2ND		3RD	
	Y	N	Y	N	Y	N
NEEPER						
MCLEAN	✓					
LOWE	✓					
TEBBEN						
ADAMS	✓					
GLENN	✓					
TOWNSEND	✓					
NIXON	✓					
TOTAL	6	0				

WHEREAS, this Council desires to amend Section 1040.12 to revise the Industrial Pretreatment Required in Chapter 1040 in order to comply with new USEPA rules; and,

WHEREAS, it is necessary to immediately enact this amendment in order to comply with USEPA rules, to preserve the public peace, property, health and safety, and to provide for the usual daily operation of the municipal government, and by reason thereof, this Ordinance shall take effect forthwith upon its passage; **Now, therefore,**

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LIMA, OHIO, WITH AT LEAST A MAJORITY OF THE MEMBERS ELECTED THERETO CONCURRING:

Section 1. Section 1040.12 Codified Ordinances of Lima, Ohio, is hereby amended as follows:

See attached Exhibit A for Section 1040.12 amendment

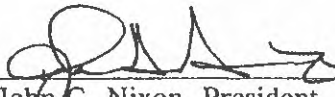
Section 2. Existing Section 1040.12 is hereby amended as set forth above, and any previous sections or ordinances in conflict herewith are hereby repealed.

Section 3. Council finds and determines that all formal actions of this Council and any of its committees concerning and relating to the adoption of this ordinance were taken in an open meeting and that all deliberations of this Council and of any of its committees that resulted in those formal actions were in meetings held in compliance with the law.

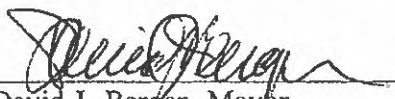
Section 4. The Clerk of Council be, and hereby is, authorized and directed to cause publication of this Ordinance to be made in a summary manner as provided by the City Charter.

Section 5. This ordinance shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the first reading hereof. If it shall not so pass it shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the second reading hereof. If it shall not so pass at second reading then it shall take effect and be in force forthwith upon passage by an affirmative vote of at least a majority of the members elected to council at the third reading hereof. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

Passed: August 5, 2013


John G. Nixon, President

Approved: August 5, 2013


David J. Berger, Mayor

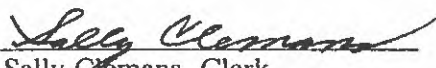
Attest: 
Sally Clemans, Clerk

Exhibit "A"

1040.12

INDUSTRIAL PRETREATMENT REQUIRED.

- (A) Baseline Monitoring Reports for Industrial Users. Significant industrial users shall complete and file with the City a baseline monitoring report in the form prescribed by the City, and accompanied by the appropriate fee. Existing significant industrial users who have not previously submitted a baseline monitoring report shall file a baseline monitoring report form within sixty days after the effective date of this chapter, and proposed new sources shall file their baseline monitoring reports at least ninety days prior to connecting to the treatment works. The report to be made by the industrial user shall be made on written forms provided by the City, shall be signed and shall meet the signatory requirements of subsection (h) hereof, and shall be certified by a professional engineer. The industrial user shall provide the following information:

- (1) Wastewater discharge peak rate and volume over a specified time period;
- (2) Chemical analyses of wastewaters, which shall include metals, oil & grease, cyanide, pH, CBOD, and TSS at a minimum, with additional parameters at the City's discretion, depending on the nature of the industrial discharge; *
- (3) Information on raw materials, processes and products affecting wastewater volume and quality;
- (4) Quantity and disposition of specific liquid, sludge, oil, solvent or other materials important to sewer use control;
- (5) A plot plan of sewers on the user's property showing sewer and pretreatment facility location;
- (6) Details of wastewater pretreatment facilities;
- (7) Details of systems to prevent and control the losses of materials through spills to the municipal sewer;
- (8) Disclosure of Standard Industrial Classification (SIC) number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended;
- (9) Statement of compliance or noncompliance with applicable pretreatment standards;
- (10) Compliance schedule as in subsection (b) hereof, if required;
- (11) Disclosure of each product produced by type, amount, process or processes and rate of production;
- (12) Disclosure of the type and amount of raw materials utilized;
- (13) Such other information as may be required by the City's NPDES permit.

- (B) Compliance Schedule. Where additional pretreatment and/or operation and maintenance activities shall be required to comply with this chapter, the industrial user shall provide a declaration of the shortest schedule by which the discharger shall provide such additional pretreatment and/or implementation of additional operational and maintenance activities.

- (1) The schedule shall contain milestone dates for the commencement and completion of major events leading to the construction and operation

of additional pretreatment required for the industrial user to comply with the requirements of this chapter including, but not limited to, dates relating to hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction and all other acts necessary to achieve compliance with this chapter.

- (2) Under no circumstance shall the Director permit a time increment for any single step directed toward compliance which exceeds nine months.
 - (3) Not later than fourteen days following each milestone date in the schedule and the final date for compliance, the industrial user shall submit a progress report to the Director, including no less than a statement as to whether or not it complied with the increment of progress represented by that milestone date, and, if not, the date on which it expects to comply with this increment of progress, the reason for delay and the steps being taken by the industrial user to return the construction to the approved schedule. In no event shall more than nine months elapse between such progress reports to the Director.
- (C) Amendment to Incorporate National Categorical Pretreatment Standards. The City reserves the right to amend this chapter and the terms and conditions hereof in order to assure compliance by the City with applicable Federal and State laws and regulations. Within nine months of the promulgation of a National Categorical Pretreatment Standard, this chapter shall be amended to require compliance by users with such standards within the time frame prescribed by such standards. All National Categorical Pretreatment Standards adopted after the promulgation of this chapter shall be adopted by the City as part of this chapter, by reference. Where a user, subject to National Categorical Pretreatment Standards, has not previously submitted a baseline monitoring report, the user shall file a baseline monitoring report with the City within 180 days after the promulgation of the applicable National Categorical Pretreatment Standard by the U.S. EPA. In addition, any user operating on the basis of a previous filing of a baseline monitoring report shall submit to the City within 180 days after the promulgation of an applicable National Categorical Pretreatment Standard, the additional information required by subsection (e) hereof. The user shall be informed by the Director of any proposed changes in this chapter at least thirty days prior to the effective date of change. Any changes or new conditions in this chapter shall include a reasonable time schedule for compliance.
- (D) National Categorical Pretreatment Standards. National Categorical Pretreatment Standards as promulgated by the U. S. Environmental Protection Agency (EPA) pursuant to The Clean Water Act (33 U.S.C. 1251 et seq.), as amended, shall be met by all categorical industrial users of the treatment works. Categorical standards for pretreatment of such pollutants are published under the appropriate subpart of 40 CFR Chapter I, Subchapter N, and are available from the Director. All owner(s) of any source to which

categorical pretreatment standards are applicable shall be in compliance with such standards within the shortest reasonable time, but no later than the time prescribed by the standard for the applicable industrial category. The City reserves the right to convert mass per unit of production limits contained in National Categorical Pretreatment Standards to equivalent mass per day or concentration limits. If the City develops these equivalent limits, they are deemed pretreatment standards, applicable to categorical industrial users in lieu of the promulgated standards.

- (E) Initial Compliance Report. Within ninety days following the date for final compliance by the significant industrial user with applicable pretreatment standards set forth in this chapter or within ninety days following commencement of the introduction of wastewater into the treatment works by the industrial user, any significant industrial user subject to this chapter shall submit to the City a report indicating the nature and concentration of all prohibited or regulated substances contained in its discharge, the average and maximum daily flow in gallons, and, if subject to production-based standards, the industrial user shall provide production data. ~~Sampling and analysis of the typical wastewater discharge from the facility shall also occur, which shall follow the same requirements as outlined in 104012(A)(2).~~ The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis, and, if not, what additional operation and maintenance and/or pretreatment is necessary to bring the industrial user into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the industrial user as required in subsection (h) hereof, and certified to by a professional engineer. *

(F) Periodic Compliance Reports.

- (1) Any significant industrial user subject to a pretreatment standard set forth in this chapter, after the compliance date of such pretreatment standard, or, in the case of a new significant industrial user, after commencement of the discharge to the City, shall submit to the City during the months of June and December, unless required more frequently by the City, a report indicating the nature and concentration of prohibited or regulated substances in the effluent which are limited by the pretreatment standards hereof. In addition, this report shall include a record of all measured or estimated average and maximum daily flows during the reporting period reported in subsection (F) hereof. Flows shall be reported on the basis of actual measurement, provided, however, where cost or feasibility considerations justify, the City may accept reports of average and maximum flows estimated by verifiable techniques. The City, for good cause shown considering such factors as local high or low flow rates, holidays, budget cycles or other extenuating factors, may authorize the submission of such reports on months other than those specified above.

- (2) Reports of dischargers shall contain all results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where required by the City, during the reporting period. The frequency of monitoring by the industrial user shall be as prescribed in the industrial discharge permit pursuant to Section 1040.121. The City shall require the frequency of monitoring necessary to determine compliance by industrial users with applicable pretreatment standards. All analyses shall be performed in accordance with 40 CFR, Part 136, and amendments thereto. Where 40 CFR, Part 136 does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutant, April, 1977, and amendments thereto, or with any other sampling and analytical procedures approved by the Administrator of the U. S. EPA.
- (3) If any industrial discharger subject to the reporting requirements in subsection (F) hereof, monitors any pollutant more frequently than required by the Director using procedures specified in paragraph (F)(2) hereof, the results of this monitoring must be included with any compliance reports required by the Director.

(G) Sampling Procedures.

(1) If sampling performed by an industrial user indicates a violation, the discharger shall notify the Director within twenty-four hours of becoming aware of the violation. The discharger shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Director within thirty days after becoming aware of the violation. The industrial user is not required to resample if:

- (a) The City performs sampling of all regulated parameters at the industrial user at least once per month; or
- (b) The City performs sampling at the industrial user between the time when the user performs its initial sampling and the time when the user receives the results of this sampling.

~~(2) If a violation is detected through sampling and analysis conducted by the City, the City shall perform the repeat sampling and analysis within 30 days of becoming of the violation unless the industry is notified of the violation and the City requires it to perform the repeat sampling and analysis.~~

(H) Signatory Requirements for Industrial User Reports. The reports required by subsections (A), (E) and (F) hereof shall include the certification statement set forth in paragraph (H)(5) hereof and shall be signed as follows:

- (1) By a responsible corporate officer, if the industrial user submitting the

reports is a corporation. For the purpose of this paragraph, a responsible corporate officer means:

- (a) The president, secretary, treasurer, or 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
 - (b) The manager of one or more manufacturing, production, or operation facilities who 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 of initiating and directing other comprehensive measures, to insure environmental compliance with environmental laws and regulations. Additionally, he/she must be responsible for ensuring that the necessary systems are established or that the necessary actions are taken to gather complete and accurate information for control mechanism requirements. Such an individual must be assigned or delegated the authority to sign documents in accordance with corporate procedures.
- (2) By a general partner or proprietor if the industrial user submitting the reports is a partnership or sole proprietorship, respectively.
- (3) By a duly authorized representative of the individual designated in paragraph (H)(1) or (H)(2) hereof:
- (a) The authorization is made in writing by the individual described in paragraph (H)(1) or (H)(2) hereof;
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the industrial discharge originates, such as the position of plant manager, operator of a well, well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; and
 - (c) The written authorization is submitted to the Director.
- (4) If an authorization under paragraph (H)(3) hereof is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of paragraph (H)(3) hereof must be submitted to the Director prior to or together with any reports to be signed by an authorized representative.

- (5) The certification statement shall read as follows: "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."
- (I) Review of Design and Installation of Plants and Equipment. If any significant industrial user proposes to pretreat its wastes, the design and installation of the plants and equipment shall be subject to the review and approval of the Director and Ohio EPA.
- (J) Effect of an Upset. An upset shall constitute an affirmative defense to an action brought for noncompliance with categorical pretreatment standards if the requirements of subsection (K) hereof are met.
- (K) Conditions Necessary For a Demonstration of Upset. An industrial user who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous, operating logs, or other relevant evidence that:
- (1) An upset occurred and the industrial user can identify the cause(s) of the upset;
 - (2) The facility was at the time being operated in a prudent and workmanlike manner and in compliance with applicable operation and maintenance procedures;
 - (3) The industrial user has submitted the following information to the POTW within twenty-four hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days):
 - (a) A description of the indirect discharge and cause of noncompliance;
 - (b) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;
 - (c) Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.
- (L) Burden of Proof. In any enforcement proceeding, the industrial user seeking

to establish the occurrence of an upset shall have the burden of proof.

- (M) User Responsibility in Case of Upset. The industrial user shall control production or all discharges to the extent necessary to maintain compliance with Categorical Pretreatment Standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost or fails.
- (N) Notification of Problem Discharges. All categorical and noncategorical industrial users shall notify the Director immediately of all discharges that could cause problems to the POTW, including any slug loadings by the industrial user. Any event of noncompliance with pretreatment standards shall be reported immediately to the POTW, upon first awareness of the commencement of noncompliance. Where such information is given orally, a written follow-up report thereof shall be filed by the user with the Director within five days. The report shall specify:
- (1) Description of the noncompliance event, the cause thereof and the impact on a user's compliance status;
 - (2) Duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance continues, the time by which compliance is reasonably expected to occur;
 - (3) All steps taken or to be taken to reduce, eliminate and prevent recurrence of such other conditions of noncompliance.
- (O) Slug Control Plan Requirements. ~~All significant industrial users shall be evaluated for the need of a slug load discharge control plan at least once per permit cycle. If it is deemed to be necessary, the industry will have ninety (90) days to develop such a plan and submit such plan to the City.~~ *
- (P) Notification of Changes in Volume or Character of Pollutants. All industrial users shall notify the Director ~~at least thirty (30) days~~ in advance of any substantial changes in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under 40 CFR 403.12(p).
- (Q) Bypass Not Violating Applicable Pretreatment Standards or Requirements. An industrial user may allow any bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of subsections (Q) and (R) hereof.

(R) Notice of Bypass.

- (1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the Director, if possible at least ten days before the date of the bypass.
- (2) An industrial user shall submit oral notice of an unanticipated bypass that exceeds applicable pretreatment standards to the Director within twenty-four hours from the time the industrial user becomes aware of the bypass. A written submission shall also be provided within five days of the time the industrial user becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass. The Director may waive the written report on a case-by-case basis if the oral report has been received within twenty-four hours.

(S) Prohibition of Bypass.

- (1) Bypass is prohibited and the Director may take enforcement action against an industrial user for a bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The industrial user submitted notices as required under subsection (Q) hereof.
- (2) The control authority may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in paragraph (R)(1) hereof.

(T) Confidential Information. Information and data furnished to the City with respect to the nature and frequency of discharge shall be available to the public or other governmental agency without restriction unless the industrial user specifically requests and is able to demonstrate to the satisfaction of the City that the release of such information would divulge

information, processes or methods of production entitled to protection as trade secrets or proprietary information of the user. When requested by an industrial user furnishing a report, the portions of a report which may disclose trade secrets or secret processes shall not be made available for inspection by the public, but shall be made available upon written request to governmental agencies for uses related to this chapter, the NPDES permit, State disposal system permit and/or the pretreatment programs, provided, however, that such portions of a report shall be available for use by the State or any State agency in judicial review or enforcement proceedings involving the industrial user furnishing the report. Wastewater constituents and characteristics shall not be recognized as confidential information. Information accepted by the City as confidential shall not be transmitted to any governmental agency or to the general public by the City until and unless a notification is given to the industrial user.

(Ord. 175-91. Passed 7-8-91.)

(U) Non-Significant Categorical Industrial Users (NSCIU)

If an IU wishes to be considered a NSCIU, the following will apply:

(1) The IU must submit annually to the POTW that contains the following certification statement:

Based on my inquiry of the person or persons directly responsible for managing compliance with the categorical pretreatment standards under 40 CFR [specify applicable national pretreatment standard part or parts], I certify that, to the best of my knowledge and belief, during the period from [specify month, day, and year] to [specify month, day, and year]:

(a) The facility described as [insert facility name] met the definition of a non-significant categorical industrial user as described in paragraph (P) of rule 3745-3-01 of the Administrative Code;

(b) The facility complied with all applicable pretreatment standards and requirements during this reporting period; and

© The facility never discharged more than one hundred gallons of total categorical wastewater on any given day during this reporting period. The compliance certification is based upon the following information:

Appropriate justification in support of this statement is required to be included with the certification statement. Appropriate justification may include water billing records, production records, etc.

(2) If the IU is located upstream of a combined or sanitary sewer overflow,

the following additional requirements must be met for the application of this classification:

(a) The IU cannot discharge wastewater that is regulated by categorical pretreatment standards;

(b) The IU must not have been in SNC at any time in the past two years; and

© Procedures for categorization of an IU as a NSCIU and the issues related to combined and sanitary sewer overflows must have been addressed through either:

(1) the long-term control plan (LTCP);

(2) an approved combined sewer system operation plan implementing the nine minimum controls; or

(3) the program modification request.

(3) If an IU is determined to meet all of the above criteria to be reclassified as a NSCIU and is classified as such by the POTW, the POTW will evaluate and document, at least once per year, whether the IU continues to meet all of the requirements for the classification.

ORDINANCE NO. 157-13

Introduced by McLean Councilman
Seconded by Adams Councilman
Form Approved McLean Director of Law
PUBLICATION: I hereby certify that Ord. No. _____ was published
in a summary manner according to law in the Lima News on _____

Sally Clemans, Clerk

**AN ORDINANCE AMENDING SECTION
1040.121 OF THE CODIFIED ORDINANCES
OF LIMA, OHIO.**

VOTE	1ST		2ND		3RD	
	Y	N	Y	N	Y	N
NEEPER						
McLEAN	✓					
LOWE	✓					
TEBBEN						
ADAMS	✓					
GLENN	✓					
TOWNSEND	✓					
NIXON	✓					
TOTAL	6	0				

WHEREAS, this Council desires to amend Section 1040.121 to revise the Industrial Discharge Permit System in Chapter 1040 in order to comply with new USEPA rules; and,

WHEREAS, it is necessary to immediately enact this amendment in order to comply with USEPA rules, to preserve the public peace, property, health and safety, and to provide for the usual daily operation of the municipal government, and by reason thereof, this Ordinance shall take effect forthwith upon its passage; **Now, therefore**,

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LIMA, OHIO, WITH AT LEAST A MAJORITY OF THE MEMBERS ELECTED THERETO CONCURRING:

Section 1. Section 1040.121 Codified Ordinances of Lima, Ohio, is hereby amended as follows:

See attached Exhibit A for Section 1040.121 amendment

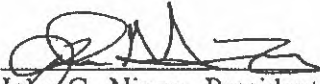
Section 2. Existing Section 1040.121 is hereby amended as set forth above, and any previous sections or ordinances in conflict herewith are hereby repealed.

Section 3. Council finds and determines that all formal actions of this Council and any of its committees concerning and relating to the adoption of this ordinance were taken in an open meeting and that all deliberations of this Council and of any of its committees that resulted in those formal actions were in meetings held in compliance with the law.

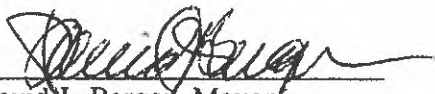
Section 4. The Clerk of Council be, and hereby is, authorized and directed to cause publication of this Ordinance to be made in a summary manner as provided by the City Charter.

Section 5. This ordinance shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the first reading hereof. If it shall not so pass it shall take effect and be in force forthwith upon passage by an affirmative vote of at least two-thirds of the members elected to council at the second reading hereof. If it shall not so pass at second reading then it shall take effect and be in force forthwith upon passage by an affirmative vote of at least a majority of the members elected to council at the third reading hereof. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

Passed: August 5, 2013


John G. Nixon, President

Approved: August 5, 2013


David J. Berger, Mayor

Attest: Sally Clemans
Sally Clemans, Clerk

1040.121 INDUSTRIAL DISCHARGE PERMIT SYSTEM.

- (A) Industrial Discharge Permits Required. All significant industrial users proposing to connect to or discharge into any part of the wastewater treatment system must first obtain a discharge permit therefor. All existing significant industrial users connected to or discharging to any part of the City system shall apply for a wastewater discharge permit within ninety days from and after the effective date of this Chapter, and shall not cause or allow discharges to the POTW to continue after 180 days after the effective date of this section except in accordance with a permit issued by the Director. New connections shall apply for a permit at least ninety days prior to the anticipated start up date. It shall be unlawful for significant industrial users to discharge wastewater, either directly or indirectly, to the POTW without first obtaining an industrial discharge permit from the Director. Any violation of the terms and conditions of an industrial discharge permit shall be deemed a violation of this chapter. Obtaining an industrial discharge permit does not relieve a permittee of its obligation to obtain other permits required by Federal, State, or local law.
- (B) Permit Application. Users seeking a wastewater discharge permit shall complete and file with the Director an application on the form prescribed by the Director, and accompanied by the applicable fee. In support of this application, the user shall submit the following information:
- (1) Current information to update the baseline monitoring report, pursuant to Section 1040.12(A);
 - (2) Any other information deemed by the Director to be necessary to evaluate the permit application; and
 - (3) The permit application shall be signed in accordance with the signatory requirements in Section 1040.12(G).

The Director shall evaluate the data furnished by the user and may require additional information. After evaluation of the data furnished, the Director may issue a wastewater discharge permit subject to terms and conditions provided herein.

- (C) Permit Fee. The permit application fee for the first industrial discharge permit issued to an industrial user shall be two hundred dollars (\$200.00). Any subsequent renewal, or reissuance of an industrial wastewater discharge permit to the same industrial user shall be subject to a one hundred dollar (\$100.00) permit renewal fee.
- (D) Permit Conditions. Industrial discharge permits shall be expressly subject to all provisions of this chapter and all other applicable regulations, user charges and fees established by the City. Permits may contain the

following:

- (1) The unit charge or schedule of user charges and fees for the wastewater to be discharged to a community sewer;
- (2) Limits on the average and maximum wastewater constituents and characteristics;
- (3) Limits on average and maximum rate and time of discharge or requirements for flow regulations and equalization.
- (4) Requirements for the installation of pretreatment technology or construction of appropriate containment devices, etc., designed to reduce, eliminate, or prevent the introduction of pollutants into the treatment works;
- (5) Development and implementation of spill control plans or other special conditions, including additional management practices necessary to adequately prevent accidental, unanticipated, or routine discharges;
- (6) Requirements for installation and maintenance of inspection and sampling facilities;
- (7) Specifications for monitoring programs, which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedules;
- (8) ~~Requirement for installation of flow monitoring facilities, instruments, and recording devices to enable accurate measurement of flows as determined to be necessary;~~
- (9) Compliance schedules;
- (10) Requirements for submission of technical reports or discharge reports (see Section 1040.12);
- (11) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the City, and affording City access thereto;
- (12) Requirements for notification of the City of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the POTW, and for notification of any change in the manufacturing and/or pretreatment process used by the permittee;

- (13) Requirements for notification of excessive, accidental, or slug discharges;
 - (14) Other conditions as deemed appropriate by the Director to ensure compliance with this chapter, and State and Federal laws, rules and regulations;
 - (15) ~~BMPs which have been developed as an enforceable local limit;~~ X
 - (16) A statement that compliance with the permit does not relieve the permittee of responsibility for compliance with all applicable Federal pretreatment standards, including those which become effective during the term of the permit.
- (E) Sampling requirements. For any report required by an industrial permit, the following guidelines shall be used to collect representative samples from the industrial discharge: X
- (1) Grab samples shall be used for the determination of pH, hexavalent chromium, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds;
 - (2) Flow-proportional samples shall be used for all other pollutants unless justification for an alternative sampling type, representative of the discharge, is approved by the City and documented in the industrial user file.
 - (3) Multiple grab samples collected during a twenty-four-hour period may be composited prior to the analysis as follows:
 - (a) For hexavalent chromium, cyanide, total phenols, and sulfides, the samples may be composited in the lab or in the field;
 - (b) For volatile organics and oil & grease, the samples may be composited in the laboratory;
 - (c) Protocols (including proper preservation) specified in 40 CFR 136 and appropriate USEPA guidelines must be followed.
- (F) Duration of Permits. Permits shall be issued for a specified time period, not to exceed five years. A permit may be issued for a period of less than one year, or may be stated to expire on a specific date. If the user is not notified by the Director 30 days prior to the expiration of the permit, the permit shall automatically be extended for three months. The terms and conditions of the permit shall be subject to modification and change by the Director during the life of the permit, as needed to incorporate new regulations, limits or changes which the Director deems necessary. The user shall be informed of any proposed changes in this permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.
- (G) Transfer of a Permit. Industrial discharge permits are issued to a specific

A detailed written statement shall be submitted by the user within fifteen days of the date of the occurrence, describing the causes of the harmful contribution and the measures taken to prevent any future occurrence.

- (E) Termination of Permit. Any user who violates the following conditions of this chapter, or an industrial discharge permit or order, or any applicable State and Federal law, is subject to permit termination:

- (1) Violation of permit conditions;
- (2) Failure to accurately report the wastewater constituents and characteristics of its discharge;
- (3) Failure to report significant changes in operations or wastewater constituents and characteristics;
- (4) Refusal of reasonable access to the user's premises for the purpose of inspection, monitoring, or sampling.

Noncompliant industrial users shall be notified of the proposed termination of their discharge permit and be offered an opportunity to show cause under subsection (B) hereof why the proposed action should not be taken.

- (F) Annual Publication. At least annually, the Director shall publish a list of all industrial users which at any time during the previous twelve months were in significant noncompliance with applicable pretreatment requirements. For the purposes of this provision, an industrial user is in significant noncompliance if its violations meet one or more of the following criteria:

- (1) Chronic violations of wastewater discharge limits (~~applies only to SIUs~~), defined here as those in which sixty-six percent or more of all of the measurements taken during a six-month period exceed (by any magnitude) an instantaneous limit, the daily maximum limit, or the average limit for the same pollutant parameter;
- (2) Technical review criteria (TRC) violations (~~applies only to SIUs~~), defined here as those in which thirty-three percent or more of all of the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of an instantaneous limit, the daily maximum limit, or the average limit multiplied by the applicable TRC (TRC=1.4 for BOD, TSS, fats, oil and grease, and 1.2 for all other pollutants except pH);
- (3) Any other violation of a pretreatment effluent limit (daily maximum or longer term average) that the Director determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of POTW personnel or the general public);

- (4) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or to the environment or has resulted in the POTW's exercise of emergency authority to halt or prevent such a discharge;
 - (5) ~~Any violation of an established BMP that adversely affects the operation of the POTW or implementation of the pretreatment program;~~ X
 - (6) Failure to meet, within ninety days after the schedule date, a compliance schedule milestone contained in a wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;
 - (7) Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, initial compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules;
 - (8) Failure to accurately report noncompliance;
 - (9) Any other violation or group of violations which the Director determines will or has adversely affected the operation or implementation of the City's pretreatment program.
- (G) Judicial Remedies, Penalties and Administrative Fines. See Section 1040.99.



CITY OF LIMA, OHIO

David J. Berger, Mayor

50 Town Square

Lima, Ohio 45801-4900 419/228-5462
www.cityhall.lima.oh.us

Fax 419/221-5214

August 15, 2013

Ohio EPA Pretreatment Engineer
Ohio Environmental Protection Agency
Division of Surface Water – Pretreatment Unit
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

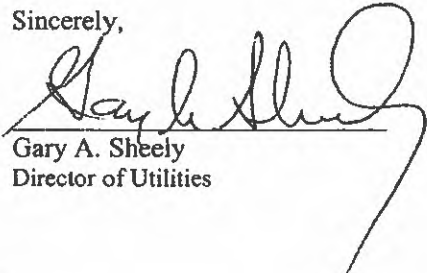
Dear Sir or Madam:

Enclosed please find two copies of the City of Lima's Local Limits proposal and the signed ordinances that incorporate the USEPA's Streamlining language into the current Sewer Use Ordinance. Mr. Steven Wordelman, Jones & Henry Engineers, was the City's technical consultant and affixed his Professional Engineer's stamp to the Local Limits document.

Both of these modifications are requirements defined in the City's current NPDES permit (2PE00000*MD) under Part I, C – Schedule of Compliance.

Please contact this office if you have further questions. Thank you.

Sincerely,


Gary A. Sheely
Director of Utilities

Enclosures

cc: David L. Schnipke, Environmental Compliance Mgr.
Russell Bales, WWTP Supervisor
Wade Leimeister, Ind. Monitoring & Lab Chief
File

2013 AUG 16 AM 9:10
OHIO EPA - BSW

[Reset Form](#)[Print Form](#)

Pretreatment Program Modification Request

Approved Program Information

Date of Request: August 13, 2013

Sewer Authority Name: City of Lima

Contact Name and Title

Name: David L. Schnipke

Title: Environmental Compliance Manager

Mailing Address: 50 Town Square

City: Lima

State: Ohio

Zip: 45801

Phone: (419)221 -5294

Fax: (419)221 -5207

E-mail: david.schnipke@cityhall.lima.oh.us

Brief Description of Modification Request:

- 1.) Incorporate USEPA Streamlining language into current Sewer Use Ordinance, and
- 2.) Evaluate the adequacy of local industrial user limitations

Briefly Describe Reason(s) Why Modification Is Necessary:

Both modifications are requirements defined in the City of Lima's current NPDES permit (#2PE00000*MD) under Part I, C - Schedule of Compliance.

Signature:

Title: ENVIRONMENTAL COMPLIANCE MANAGER

Date: 8/15/13

Attach to this cover sheet in duplicate an official copy of the proposed modification request describing the request in detail with appropriate justification. Include any technical and supporting documents that might be necessary for Ohio EPA review.

Mail completed requests to:
Ohio EPA, DSW
Pretreatment Unit
PO Box 1049
Columbus, OH 43216-1049

For office use only

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Removal Rates Calculated by Mean Removal Efficiency

Cadmium (Cd)					Chromium (Cr)				
Month	Influent	Effluent	% Removal		Month	Influent	Effluent	% Removal	
Jan-09	5.10	AA 0.2	0.20		Jan-09	AA 0.2	AA 0.2		
Feb-09	0.55	AA 0.2	0.20		Feb-09	AA 0.2	AA 0.2		
Mar-09	AA 0.2	AA 0.2			Mar-09	AA 0.2	AA 0.2		
Apr-09	AA 0.2	AA 0.2			Apr-09	AA 0.2	AA 0.2		
May-09	4.30	AA 0.2	0.20		May-09	AA 0.2			
Jun-09	2.00	AA 0.2	0.20		Jun-09	3.1	AA 0.2	0.20	
Jul-09	AA 0.2	AA 0.2			Jul-09	AA 0.2	AA 0.2		
Aug-09	0.31	AA 0.2	0.20		Aug-09	4.7	AA 0.2	0.20	
Sep-09	AA 0.5	AA 0.5			Sep-09	5.1	AA 2.0	2.00	
Oct-09	2.10	AA 0.2	0.20		Oct-09	1.9	AA 0.2	0.2	
Nov-09	AA 0.2	AA 0.2			Nov-09	AA 0.2	AA 0.2		
Dec-09	2.80	AA 0.2	0.2		Dec-09	0.7	AA 0.2	0.2	
Jan-10	AA 0.2	AA 0.2			Jan-10	AA 0.2	AA 0.2		
Feb-10	1.10	AA 0.2	0.2		Feb-10	4.0	AA 0.2	0.2	
Mar-10	AA 0.2	AA 0.2			Mar-10	AA 0.2	AA 0.2		
Apr-10	1.60	AA 0.2	0.2		Apr-10	AA 0.2	AA 0.2		
May-10	0.78	AA 0.2	0.2		May-10	6.0	AA 0.2	0.2	
Jun-10	3.20	AA 0.2	0.2		Jun-10	AA 0.2	AA 0.2		
Jul-10	AA 0.2	AA 0.2			Jul-10	2.9	AA 0.2	0.2	
Aug-10	1.00	AA 0.2	0.2		Aug-10	AA 0.2	AA 0.2		
Sep-10	AA 0.2	AA 0.2			Sep-10	4.6	AA 0.2	0.2	
Oct-10	0.21	AA 0.2	0.2		Oct-10	AA 0.2	AA 0.2		
Nov-10	0.98	AA 0.2	0.2		Nov-10	AA 0.2	AA 0.2		
Dec-10	AA 0.2	AA 0.2			Dec-10	AA 0.2	AA 0.2		
Jan-11	0.81	AA 0.2	0.2		Jan-11	AA 0.2	AA 0.2		
Feb-11	AA 0.2	AA 0.2			Feb-11	AA 0.2	AA 0.2		
Mar-11	2.50	AA 0.2	0.2		Mar-11	4.0	AA 0.2	0.2	
Apr-11	2.30	AA 0.2	0.2		Apr-11	AA 0.2	AA 0.2		
May-11	1.20	AA 0.2	0.2		May-11	12.1	AA 0.2	0.2	
Jun-11	AA 0.2	AA 0.2			Jun-11	AA 0.2	AA 0.2		
Jul-11	AA 0.2	AA 0.2			Jul-11	AA 0.2	AA 0.2		
Aug-11	AA 0.2	AA 0.2			Aug-11	AA 0.2	AA 0.2		
Sep-11	AA 3	AA 3			Sep-11	AA 7	AA 7		
Oct-11	AA 3	AA 3			Oct-11	AA 7	AA 7		
Nov-11	AA 3	AA 3			Nov-11	AA 7	AA 7		
Dec-11	AA 3	AA 3			Dec-11	AA 7	AA 7		
Jan-12	AA 3	AA 3			Jan-12	AA 7	AA 7		
Feb-12	AA 3	AA 3			Feb-12	AA 7	AA 7		
Mar-12	AA 3	AA 3			Mar-12	AA 7	AA 7		
Apr-12	AA 3	AA 3			Apr-12	AA 7	AA 7		
May-12	AA 3	AA 3			May-12	AA 7	AA 7		
Jun-12	3.00	AA 3	3		Jun-12	10.0	AA 7	7	
Jul-12	3.00	AA 3	3		Jul-12	8.0	AA 7	7	
Aug-12	AA 3	AA 3			Aug-12	AA 7	AA 7		
Sep-12	AA 3	AA 3			Sep-12	20.0	AA 7	7	
Oct-12	AA 3	AA 3			Oct-12	10.0	AA 7	7	
Nov-12	AA 3	AA 3			Nov-12	AA 7	AA 7		
Dec-12	AA 3	AA 3			Dec-12	AA 7	AA 7		
Jan-13	AA 3.0	AA 3.0			Jan-13	AA 10	AA 10		
Feb-13	AA 3	AA 3			Feb-13	AA 7	AA 7		
Mar-13	AA 3	AA 3			Mar-13	AA 7	AA 7		
Apr-13	AA 3	AA 3			Apr-13	11	AA 7	7	
Average	1.94	#DIV/0!	0.48	75.28	Average	6.76	#DIV/0!	2.44	63.93

Removal Rates Calculated Using Mean Removal Efficiency

Month	Copper (Cu)			% Removal
	Influent	Effluent		
Jan-09	48.0	24.00	24.00	
Feb-09	29.0	2.00	2.00	
Mar-09	40.0	16.00	16.00	
Apr-09	24.0	3.00	3.00	
May-09	84.0	16.00	16.00	
Jun-09	38.0	4.00	4.00	
Jul-09	11.0	AA 2.0	2.00	
Aug-09	13.0	4.00	4.00	
Sep-09	40.4	8.00	8.00	
Oct-09	53.0	6.00	6.00	
Nov-09	31.0	AA 2.0	2	
Dec-09	35.0	3	3	
Jan-10	16.0	4	4	
Feb-10	39.0	4	4	
Mar-10	4.0	AA 2.0	2	
Apr-10	48.0	AA 2.0	2	
May-10	46.0	4	4	
Jun-10	36.0	8	8	
Jul-10	80.0	AA 2.0	2	
Aug-10	37.0	AA 2.0	2	
Sep-10	25.0	6	6	
Oct-10	45.0	4	4	
Nov-10	62.0	3	3	
Dec-10	12.0	AA 2.0	2	
Jan-11	17.0	AA 2.0	2	
Feb-11	36.0	9	9	
Mar-11	27.0	4	4	
Apr-11	14.5	10	10	
May-11	36.0	7	7	
Jun-11	20.0	5	5	
Jul-11	66.0	19	19	
Aug-11	24.0	7	7	
Sep-11	71.0	AA 8	8	
Oct-11	40.0	AA 8	8	
Nov-11	40.0	AA 8	8	
Dec-11	10.0	AA 8	8	
Jan-12	30.0	AA 8	8	
Feb-12	17.0	AA 8	8	
Mar-12	21.0	AA 8	8	
Apr-12	23.0	AA 8	8	
May-12	24.0	AA 8	8	
Jun-12	58.0	AA 8	8	
Jul-12	35.0	AA 8	8	
Aug-12	14.0	AA 8	8	
Sep-12	55.0	AA 8	8	
Oct-12	22.0	AA 8	8	
Nov-12	16.0	AA 8	8	
Dec-12	20	AA 8	8	
Jan-13	25	AA 10	10	
Feb-13	16	AA 8	8	
Mar-13	17	AA 8	8	
Apr-13	38	AA 8	8	
Average	33.25	7.50	6.88	79.29

Month	Lead (Pb)			% Removal
	Influent	Effluent		
Jan-09	AA 2.0	AA 2.0		
Feb-09	3.00	AA 2.0	2.00	
Mar-09	AA 2.0	AA 2.0		
Apr-09	3.00	AA 2.0	2.00	
May-09	AA 2.0	AA 2.0		
Jun-09	AA 2.0	AA 2.0		
Jul-09	4.20	AA 2.0	2.00	
Aug-09	AA 2.0	AA 2.0		
Sep-09	2.80	AA 2.0	2.00	
Oct-09	AA 2.0	AA 2.0		
Nov-09	AA 2.0	AA 2.0		
Dec-09	3.10	AA 2.0	2	
Jan-10	AA 2.0	AA 2.0		
Feb-10	2.90	AA 2.0	2	
Mar-10	AA 2.0	AA 2.0		
Apr-10	AA 2.0	AA 2.0		
May-10	13.10	AA 2.0	2	
Jun-10	11.10	AA 2.0	2	
Jul-10	AA 2.0	AA 2.0		
Aug-10	AA 2.0	AA 2.0		
Sep-10	AA 2.0	AA 2.0		
Oct-10	25.80	AA 2.0	2	
Nov-10	3.80	AA 2.0	2	
Dec-10	AA 2.0	AA 2.0		
Jan-11	AA 2.0	AA 2.0		
Feb-11	AA 2.0	AA 2.0		
Mar-11	AA 2.0	AA 2.0		
Apr-11	AA 2.0	AA 2.0		
May-11	AA 2.0	AA 2.0		
Jun-11	AA 2.0	AA 2.0		
Jul-11	AA 2.0	AA 2.0		
Aug-11	AA 2.0	AA 2.0		
Sep-11	AA 10	AA 10		
Oct-11	AA 10	AA 10		
Nov-11	AA 10	AA 10		
Dec-11	AA 10	AA 10		
Jan-12	AA 10	AA 10		
Feb-12	AA 10	AA 10		
Mar-12	AA 10	AA 10		
Apr-12	AA 10	AA 10		
May-12	AA 10	AA 10		
Jun-12	20.00	AA 10	10	
Jul-12	AA 10	AA 10		
Aug-12	AA 14	AA 15		
Sep-12	27.00	AA 10	10	
Oct-12	AA 20	AA 10		
Nov-12	AA 10	AA 10		
Dec-12	AA 10	AA 10		
Jan-13	AA 10.0	AA 10.0		
Feb-13	AA 10	AA 10		
Mar-13	AA 10	AA 10		
Apr-13	21	AA 10	10	
Average	10.83	#DIV/0!	3.85	64.49

Removal Rates Calculated Using Mean Removal Efficiency

Mercury (Hg)				Nickel (Ni)			
Month	Influent	Effluent	% Removal	Month	Influent	Effluent	% Removal
Jan-09	82.1	4.5		Jan-09	41.00	3.00	3.00
Feb-09	17	4.8		Feb-09	13.00	AA 1.0	1.00
Mar-09	33.9	3.1		Mar-09	4.00	2.00	2.00
Apr-09	12.1	2.3		Apr-09	18.00	AA 1.0	1.00
May-09	120.2	3.9		May-09	11.00	1.90	1.90
Jun-09	29.9	1.3		Jun-09	7.00	AA 1.0	1.00
Jul-09	154.8	5.8		Jul-09	12.10	AA 1.0	1.00
Aug-09	30.9	2.1		Aug-09	34.00	3.00	3.00
Sep-09	24.4	3.2		Sep-09	3.70	AA 0.2	0.20
Oct-09	28.2	3		Oct-09	13.00	AA 1.0	1
Nov-09	26.3	2.4		Nov-09	AA 1.0	AA 1.0	
Dec-09	59.4	2.6		Dec-09	38.00	2	2
Jan-10	17.7	2.3		Jan-10	16.00	AA 1.0	1
Feb-10	101.5	3		Feb-10	23.00	AA 1.0	1
Mar-10	8.9	2.6		Mar-10	AA 1.0	AA 1.0	
Apr-10	22.9	2		Apr-10	31.00	2.6	2.6
May-10	18.4	4.9		May-10	2.80	AA 1.0	1
Jun-10	23.4	1.5		Jun-10	38.00	AA 1.0	1
Jul-10	25.75	6.2		Jul-10	9.40	AA 1.0	1
Aug-10	19.5	4.7		Aug-10	8.00	AA 1.0	1
Sep-10	21.3	3.8		Sep-10	AA 1.0	AA 1.0	
Oct-10	93.3	7.15		Oct-10	8.40	AA 1.0	1
Nov-10	24	5.2		Nov-10	79.00	2.1	2.1
Dec-10	22.4	3.7		Dec-10	19.00	AA 1.0	1
Jan-11	13.1	4.2		Jan-11	19.30	AA 1.0	1
Feb-11	17.6	2.8		Feb-11	5.00	AA 1.0	1
Mar-11	35.4	7.55		Mar-11	1.80	AA 1.0	1
Apr-11	19.1	6.6		Apr-11	29.60	AA 1.0	1
May-11	53.1	8.7		May-11	27.00	AA 1.0	1
Jun-11	29.2	3.4		Jun-11	AA 1.0	AA 1.0	
Jul-11	89.8	2.8		Jul-11	5.00	AA 1.0	1
Aug-11	15.4	5.7		Aug-11	5.00	AA 1.0	1
Sep-11	29	6.09		Sep-11	AA 8	AA 8	
Oct-11	13.4	0.836		Oct-11	AA 8	AA 8	
Nov-11	23.9	3.15		Nov-11	AA 8	AA 8	
Dec-11	23.5	4.03		Dec-11	AA 8	AA 8	
Jan-12	58.6	1.29		Jan-12	8.00	AA 8	8
Feb-12	11.5	2.66		Feb-12	AA 8	AA 8	
Mar-12	13	0.556		Mar-12	AA 8	AA 8	
Apr-12	12.1	1.4		Apr-12	AA 8	AA 8	
May-12	53.6	1.84		May-12	AA 8	AA 8	
Jun-12	22.5	1.5		Jun-12	11.00	10	10
Jul-12	27.7	AA 0.500		Jul-12	8.00	AA 8	8
Aug-12	31.6	AA 0.500		Aug-12	AA 8	AA 8	
Sep-12	33.8	0.906		Sep-12	19.00	AA 8	8
Oct-12	11.6	0.701		Oct-12	AA 8	AA 8	
Nov-12	16.3	1.09		Nov-12	AA 8	AA 8	
Dec-12	82.7	0.848		Dec-12	AA 8	AA 8	
Jan-13	8.06	1.84		Jan-13	19	AA 8	8
Feb-13	12.1	1.87		Feb-13	AA 8	AA 8	
Mar-13	6.6	1.04		Mar-13	AA 8	AA 8	
Apr-13	126	1.06		Apr-13	10	AA 8	8
Average	36.70	3.21	91.25	Average	17.56	3.33	2.55 85.46

Removal Rates Calculated Using Mean Removal Efficiency

Month	Influent	Zinc (Zn) Effluent	% Removal
Jan-09	108	40	40
Feb-09	84	36	36
Mar-09	38	25	25
Apr-09	88	28	28
May-09	113	44	44
Jun-09	175	63	63
Jul-09	107	28	28
Aug-09	173	48	48
Sep-09	183	45	45
Oct-09	209	39	39
Nov-09	170	84	84
Dec-09	179	80	80
Jan-10	112	45	45
Feb-10	123	33	33
Mar-10	24	4	4
Apr-10	177	48	48
May-10	223	45	45
Jun-10	84	14	14
Jul-10	151	31	31
Aug-10	62	26	26
Sep-10	144	32	32
Oct-10	138	30	30
Nov-10	199	37	37
Dec-10	84	30	30
Jan-11	132	31	31
Feb-11	116	32	32
Mar-11	97	42	42
Apr-11	68	28	28
May-11	105	50	50
Jun-11	74	21	21
Jul-11	59	113	113
Aug-11	99	18	18
Sep-11	148	AA 10	10
Oct-11	146	15	15
Nov-11	120	16	16
Dec-11	37	14	14
Jan-12	105	14	14
Feb-12	40	19	19
Mar-12	63	17	17
Apr-12	65	14	14
May-12	77	26	26
Jun-12	193	24	24
Jul-12	120	28	28
Aug-12	82	AA 10	10
Sep-12	148	17	17
Oct-12	265	AA 10	10
Nov-12	55	24	24
Dec-12	49	16	16
Jan-13	52	19	19
Feb-13	65	AA 10	10
Mar-13	67	23	23
Apr-13	120	25	25
Average	113.75	32.94	31.17 72.60

SUMMARY	
POC	MRE %
Cadmium	75.3
Chromium	63.9
Copper	79.3
Lead	64.5
Mercury	91.3
Nickel	85.5
Zinc	72.6

Appendix B

Local Limits Calculation Tables

TABLE 1
Local Limits Determination Based on NPDES Effluent Limits

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Daily Limit (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Arsenic	0.60	13.84	45	0.112	0.0085	13.24	23.50484945	0.94	17.87	3.57	20
Cadmium	0.60	13.84	62	0.0055	0.0025	13.24	2.57	0.28	1.78	0.3557	20
Chromium	0.60	13.84	83	0.109	0.0151	13.24	34.85	1.67	26.21	5.2386	20
Copper	0.60	13.84	66	0.028	0.0479	13.24	15.61	5.29	7.20	1.4391	20
Lead	0.60	13.84	64	0.025	0.0079	13.24	8.13	0.87	5.63	1.1252	20
Mercury	0.60	13.84	91	0.0000013	0.0138	13.24	0.002	1.52	-1.522	-0.3042	20
Molybdenum	0.60	13.84	50	11.19	0.0007	13.24	2583.22	0.08	2066.50	412.9702	20
Nickel	0.60	13.84	74	0.132	0.0136	13.24	105.08	1.50	82.56	16.4988	20
Zinc	0.60	13.84	72	0.306	0.1290	13.24	128.91	14.24	88.88	17.7619	20

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) NPDES daily maximum permit limit for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * Ccrit * Qpotw$

$1 - Rpotw$

[-:

Selenium 50
0.003

TABLE 2
Local Limits Determination Based on Activated Sludge Inhibition Level

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rprim)	Activated Sludge Inhibition Level (mg/l) (Ccrit)	Domestic and Commercial Conc. (mg/l) (Cdom)	Domestic and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	
Arsenic	0.60	13.84	45	0.1	0.0085	13.24	20.99	0.939	15.85	3.17	20
Cadmium	0.60	13.84	75.3	1	0.0025	13.24	467.31	0.276	373.57	74.65	20
Chromium	0.60	13.84	63.9	1	0.0151	13.24	319.74	1.667	254.12	50.78	20
Copper	0.60	13.84	79.3	1	0.0479	13.24	557.61	5.289	440.80	88.09	20
Lead	0.60	13.84	64.5	0.1	0.0079	13.24	32.51	0.872	25.14	5.02	20
Mercury	0.60	13.84	91.3	0.1	0.0138	13.24	132.67	1.524	104.61	20.91	20
Molybdenum	0.60	13.84	50		0.0007	13.24	-	0.077	-	-	20
Nickel	0.60	13.84	85.5	1	0.0136	13.24	796.04	1.502	635.33	126.96	20
Zinc	0.60	13.84	72.6	5	0.129	13.24	2106.31	14.244	1670.80	333.89	20

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rprim) Removal efficiency across across primary treatment as percent.

(Ccrit) Activated sludge threshold inhibition level, mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * Ccrit * Qpotw$

1 - Rprim

Selenium
= 0

TABLE 3
Local Limits Determination Based on Nitrification Inhibition Level

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rsec)	Nitrification Inhibition Level (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Arsenic	0.60	13.84	45	1.5	0.0085	13.24	-	0.94	-	-	20
Cadmium	0.60	13.84	63.75	5.2	0.0025	13.24	2430.01	0.28	1943.73	388.44	20
Chromium	0.60	13.84	63.9	0.25	0.0151	13.24	79.93	1.67	62.28	12.45	20
Copper	0.60	13.84	79.3	0.05	0.0479	13.24	27.88	5.29	17.02	3.40	20
Lead	0.60	13.84	64.5	0.5	0.0079	13.24	162.57	0.87	129.18	25.82	20
Mercury	0.60	13.84	91.3	-	0.0138	13.24	-	1.52	-	-	20
Molybdenum	0.60	13.84	50	-	0.0007	13.24	-	0.08	-	-	20
Nickel	0.60	13.84	85.5	0.25	0.0136	13.24	199.01	1.50	157.71	31.52	20
Zinc	0.60	13.84	72.6	0.08	0.129	13.24	33.70	14.24	12.72	-	20

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rsec) Removal efficiency across primary treatment and secondary treatment as percent.

(Ccrit) Nitrification threshold inhibition level, mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $\frac{8.34 * Ccrit * Qpotw}{1 - Rsec}$

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TABLE 4
Local Limits Determination Based on USEPA 503 Sludge Regulations

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE								MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Sludge Flow (MGD) (Qsldg)	Percent Solids (%) (PS)	Removal Efficiency (%) (Rpotw)	503 Sludge Criteria (mg/kg) (Cslcrit)	Domestic and Commercial Conc. (mg/l) (Cdom)	Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0.60	13.84	0.060	5.00	45	41	0.0085	13.24	2.280	0.939	0.885	0.177	20
Cadmium	0.60	13.84	0.060	5.00	75.3	39	0.0025	13.24	1.296	0.276	0.761	0.152	20
Chromium	0.60	13.84	0.060	5.00	63.9		0.0151	13.24		1.667	-	-	20
Copper	0.60	13.84	0.060	5.00	79.3	1500	0.0479	13.24	47.327	5.289	32.572	6.509	20
Lead	0.60	13.84	0.060	5.00	64.5	300	0.0079	13.24	11.637	0.872	8.437	1.686	20
Mercury	0.60	13.84	0.060	5.00	91.3	17	0.0138	13.24	0.466	1.524	-1.151	-0.230	20
Molybdenum	0.60	13.84	0.060	5.00	50	75	0.0007	13.24	3.75	0.077	2.93	0.585	20
Nickel	0.60	13.84	0.060	5.00	85.5	420	0.0136	13.24	12.291	1.502	8.331	1.665	20
Zinc	0.60	13.84	0.060	5.00	72.6	2800	0.129	13.24	96.496	14.244	62.952	12.580	20

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Qsldg) Sludge flow to disposal in MGD.

(PS) Percent solids of sludge to disposal.

(Rpotw) Removal efficiency across POTW as a percent.

(Cslcrit) 503 sludge criteria in mg/kg dry sludge.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $\frac{8.34 * Cslcrit * (PS/100) * Qsldg}{Rpotw}$

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TABLE 5
Local Limits Determination Based on Anaerobic Digester Inhibition Level

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE							MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Sludge Flow to Digester (MGD) (Qdig)	Removal Efficiency (%) (Rpotw)	Anaerobic Digester Inhibition Level (mg/l) (Ccrit)	Domestic and Conc. (mg/l) (Cdom)	Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0.60	13.84	0.12	45	1.6	0.0085	13.24	-	0.94	-	-	20
Cadmium	0.60	13.84	0.12	75.3	20	0.0025	13.24	26.58	0.28	20.99	4.19	20
Chromium	0.60	13.84	0.12	63.9	240	0.0151	13.24	375.89	1.67	299.04	59.76	20
Copper	0.60	13.84	0.12	79.3	40	0.0479	13.24	50.48	5.29	35.10	7.01	20
Lead	0.60	13.84	0.12	64.5	340	0.0079	13.24	527.55	0.87	421.17	84.17	20
Mercury	0.60	13.84	0.12	91.3		0.0138	13.24	-	1.52	-	-	20
Molybdenum	0.60	13.84	0.12	50		0.0007	13.24	-	0.08	-	-	20
Nickel	0.60	13.84	0.12	85.5	10	0.0136	13.24	11.71	1.50	7.86	1.57	20
Zinc	0.60	13.84	0.12	72.6	400	0.129	13.24	551.40	14.24	426.88	85.31	20

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Qdig) Sludge flow to digester in MGD.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) Anaerobic digester threshold inhibition level in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $\frac{8.34 * C_{crit} * Q_{dig}}{R_{potw}}$

Local Limits Comparison for Pollutants of Concern

Maximum Allowable Industrial Loadings (MAIL)						
POC	Approved Study 2002 (lbs/day)	2013 Local Limits Calculations (lbs/day)				
		Table 1	Table 2	Table 3	Table 4	Table 5
Arsenic		17.9	15.9	-	0.885	-
Cadmium		1.78	374	1944	0.761	21.0
Chromium - Total	67.87	26.2	254.1	62.3	-	299.0
Copper	12.05	7.20	441	17.0	32.57	35.1
Lead	3.08	5.63	25.1	129	8.44	421
Mercury		-	105	-	-1.151	-
Molybdenum		2067	-	-	2.93	-
Nickel	9.65	82.6	635	157.7	8.33	7.86
Selenium		-0.473	-	-	0.414	-
Silver		-0.565	22.4	-	-	-
Zinc	20.08	88.9	1671	12.7	63.0	427

Notes:

Numbers highlighted are the proposed new daily maximum limits.

Appendix C

Local Industrial Sampling

Metals Sampling for Ford (2009 - 2013)

Date / Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
01/21/09 1134	AA	AA	0.002	0.006	0.003	AA	0.009	0.003	AA	AA	0.027
04/16/09 1025	AA	AA	0.003	0.016	0.002	AA	0.005	0.006	0.002	AA	0.023
08/26/09 1022	0.0011	0.00004	0.00063	0.00334	0.00028	0.00008	0.00626	0.00264	0.00113	0.00001	0.0103
10/16/09 1036	AA	AA	0.003	0.006	0.002	AA	0.006	0.004	AA	AA	0.019
01/20/10 0920	AA	AA	0.003	0.032	0.007	AA	0.014	0.008	AA	AA	0.111
04/21/10 0915	0.00134	0.00013	0.0033	0.0192	0.00373	AA	0.00968	0.00479	0.00183	AA	0.0443
07/28/10 1627	0.00102	AA	0.00559	0.00395	0.00014	AA	0.00514	0.00204	0.00091	AA	0.0111
10/20/10 9:24	0.00111	AA	0.00123	0.00379	0.0003	AA	0.00644	0.00317	AA	AA	0.0127
2/2/11 11:15	AA	AA	0.00413	0.0197	0.00332	5.7E-05	0.0175	0.00364	AA	AA	0.025
4/28/11 11:42	AA	0.00013	0.00172	0.0138	0.00491	AA	0.00666	0.00325	AA	AA	0.0568
7/27/11 1431	0.00085	6.8E-05	0.00399	0.00678	0.00133	AA	0.00874	0.0044	AA	AA	0.0156
10/26/11 0952	0.00119	AA	0.00185	0.0164	0.00387	AA	0.00782	0.00954	AA	AA	0.045
02/15/12 0928	0.0006	AA	0.00256	0.0347	0.00534	AA	0.0168	0.00614	AA	AA	0.0333
04/25/12 0943	0.0006	AA	0.00201	0.014	0.00351	AA	0.00997	0.0034	AA	AA	0.0174
08/01/12 1619	0.00087	AA	0.00885	0.00426	0.00043	AA	0.00403	0.0018	AA	AA	0.00946
11/07/12 1022	0.00107	0.0003	0.00148	0.00615	0.0022	0.0002	0.0151	0.00499	0.0005	0.0001	0.0215
02/06/13 1121	0.00058	0.001	0.0119	0.00391	0.00235	0.0002	0.0177	0.00458	0.00053	0.002	0.00996
05/01/13 1034	0.00056	0.001	0.00071	0.00283	0.00262	0.0002	0.0144	0.0036	0.002	0.002	0.025
Average	0.0009	0.0001	0.0034	0.0118	0.0027	0.0001	0.0100	0.0044	0.0013	-	0.029
20% SF	0.001	0.000	0.004	0.014	0.003	0.000	0.012	0.005	0.002	-	0.035
Max	0.00134	0.00013	0.0119	0.0347	0.007	5.7E-05	0.0177	0.00954	0.002	-	0.111
20% SF from Max	0.002	0.000	0.014	0.042	0.008	0.000	0.021	0.011	0.002	-	0.133

Metals Sampling for Lima Army Tank Center (2009 - 2013)

Date / Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
02/19/09 1116	AA	0.01	0.02	0.035	0.014	0.041	AA	0.03	AA	AA	0.207
05/28/09 0944	AA	0.008	0.01	0.046	0.015	0.077	AA	0.02	AA	AA	0.291
08/19/09 1603	AA	0.014	0.11	0.064	0.027	0.112	AA	0.15	AA	AA	0.209
11/18/09 0936	AA	0.015	0.06	0.117	0.024	0.061	AA	0.08	AA	AA	0.219
03/03/10 1241	AA	0.012	0.02	0.044	0.015	0.026	AA	0.02	AA	AA	0.26
5/21/10 10:40	AA	0.01	0.02	0.051	0.012	0.084	AA	0.02	AA	0.014	0.225
8/17/10 16:12	AA	0.005	0.02	0.061	AA	AA	AA	0.02	AA	AA	0.118
12/2/10 8:11	AA	0.008	0.05	0.045	0.013	0.029	AA	0.03	AA	AA	0.123
2/25/11 10:58	0.006	0.045	0.23	0.192	0.018	0.037	AA	0.14	AA	AA	0.299
5/26/11 10:29	AA	0.006	0.01	0.032	0.012	0.023	AA	0.01	AA	AA	0.209
08/24/11 0851	AA	0.038	0.068	0.152	0.036	0.158	AA	0.05	AA	0.005	0.643
10/13/11 0945	AA	AA									0.143
11/17/11 1114	AA	0.008	0.01	0.059	0.011	0.045	AA	AA	AA	AA	0.17
05/25/12 1040	AA	0.018	0.07	0.088	0.03	0.18	AA	0.12	AA	AA	0.324
09/07/12 1015	AA	0.023	0.06	0.119	0.022	0.191	AA	0.07	AA	AA	0.445
12/05/12 1131	AA	0.016	0.16	0.143	0.032	0.128	AA	0.19	AA	AA	0.163
03/13/13 0922	AA	0.004	0.03	0.033	AA	0.036	AA	0.058	AA	AA	0.177
Average	0.006	0.0150	0.0593	0.0801	0.0201	0.0819	-	0.0672	-	0.0095	0.249
20% SF	0.007	0.018	0.071	0.096	0.024	0.098	-	0.081	-	0.011	0.298
Max	0.0060	0.0450	0.2300	0.1920	0.0360	0.1910	-	0.1900	-	0.0140	0.6430
20% SF from Max	0.007	0.054	0.276	0.230	0.043	0.229	-	0.228	-	0.017	0.772

Metals Sampling for Lima Tank Wash (2009 - 2013)

Date/Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
04/08/09 0949	0.029	0.001	AA	0.036	AA	AA	AA	0.008	AA	AA	0.245
07/01/09 1031	AA	AA	AA	0.021	AA	AA	0.079	0.008	AA	AA	1.08
09/30/09 1108	0.019	0.008	AA	0.034	0.024	AA	0.015	0.046	0.037	AA	0.279
12/17/09 1209	0.002	0.004	0.009	0.063	0.051	AA	0.003	0.07	AA	0.004	2.06
03/17/10 1018	0.004	AA	0.06	0.282	AA	AA	AA	0.584	AA	AA	1.93
6/18/10 10:40	0.323	AA	0.007	0.135	0.087	AA	0.0027	0.079	0.055	0.0018	1.171
9/22/10 10:05	AA	AA	5.08	0.015	AA	AA	AA		AA	0.0024	0.186
10/27/10 10:36			AA								
12/17/10 11:34	0.0013	0.00087	AA	0.029	AA	AA	0.0042	0.041	0.0038	AA	0.564
3/23/11 10:51	0.0083	0.003	0.024	0.121	AA	AA	AA	0.097	0.0022	0.00073	1.468
7/1/11 10:24	0.0821	0.00085	0.161	0.084	AA	AA	AA	0.029	0.1048	0.0062	0.36
09/30/11 0949	AA	AA	0.021	0.017	0.016	AA	AA	0.033	AA	AA	7.48
12/16/11 1035	AA	AA	0.063	0.038	0.038	AA	AA	0.02	AA	AA	12.1
03/28/12 1023	AA	0.016	1.99	0.362	0.298	0.0004	0.063	0.358	AA	AA	141
07/12/12 0949	AA	AA	0.094	0.015	AA	AA	AA	0.019	AA	AA	0.281
10/04/12 1057	AA	AA	0.015	0.018	0.02	AA	AA	0.02	AA	AA	0.163
01/04/13 0938	AA	AA	0.047	0.019	AA	AA	0.137	0.019	AA	AA	1.11
03/27/13 1007	AA	AA	4.01	0.09	0.025	AA	AA	0.014	AA	AA	1.66
Average	0.0306	0.0052	1.1505	0.0735	0.0794	0.0004	0.0681	0.0650	0.0369	0.0031	15.125
20% SF	0.037	0.006	1.381	0.088	0.095	0.000	0.082	0.078	-	-	18.150
Max	0.0821	0.016	5.08	0.362	0.298	0.0004	0.137	0.358	0.1048	0.0062	141
20% SF from Max	0.099	0.019	6.096	0.434	0.358	0.000	0.164	0.430	0.126	0.007	169.200

Metals Sampling for Lima Memorial Hospital (2009 - 2013)

Date/Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
02/26/09 1015	AA	AA	AA	0.074	AA	AA	AA	0.01	AA	0.031	0.41
06/05/09 0918	AA	0.006	0.04	0.464	0.095	0.047	0.0003	0.04	0.005	0.208	1.53
08/19/09 1652	AA	AA	AA	0.03	AA	AA	AA	AA	AA	AA	0.146
11/18/09 1021	AA	AA	AA	0.031	AA	0.077	AA	AA	AA	AA	0.099
02/24/10 0856	0.008	AA	AA	0.025	0.006	0.004	AA	0.012	0.002	0.002	0.242
5/20/10 10:03	AA	AA	0.01	0.04	AA	0.026	AA	AA	AA	AA	0.207
11/17/10 11:03	AA	AA	0.01	0.037	AA	0.592	AA	AA	AA	0.003	0.135
3/2/11 9:53	AA	AA	AA	0.042	AA	0.31	AA	AA	AA	AA	0.12
5/20/11 9:08	AA	AA	AA	0.035	AA	0.954	AA	AA	AA	AA	0.082
08/24/11 1034	AA	AA	AA	0.029	AA	AA	AA	AA	AA	AA	0.144
11/17/11 0847	AA	AA	AA	0.032	AA	AA	AA	AA	AA	AA	0.061
03/08/12 0959	AA	AA	AA	0.039	AA	AA	AA	AA	AA	AA	0.122
05/24/12 1149	AA	AA	0.02	0.03	AA	AA	AA	AA	AA	AA	0.124
09/05/12 1013	AA	AA	AA	0.021	AA	AA	AA	AA	AA	AA	0.064
12/05/12 0920	AA	AA	AA	0.018	AA	AA	AA	AA	AA	AA	0.039
03/06/13 1031	AA	AA	AA	0.037	AA	AA	AA	AA	AA	AA	0.167
Average	0.008	0.0060	0.0200	0.0615	0.0505	0.2871	0.0003	0.0207	0.0035	0.0610	0.231
20% SF	-	0.007	0.024	0.074	0.061	-	0.000	0.025	-	0.073	0.277
Max	-	0.006	0.04	0.464	0.095	0.954	0.0003	0.04	0.005	0.208	1.53
20% SF from Max	-	0.007	0.048	0.557	0.114	1.145	0.000	0.048	0.006	0.250	1.836

Metals Sampling for Metokote (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
01/22/09 1158	0.002	0.002	AA	0.023	AA	0.024	AA	0.21	AA	AA	0.141
04/22/09 1007	0.007	AA	AA	0.015	AA	AA	AA	0.054	AA	0.022	0.108
08/12/09 1444	AA	0.002	0.006	0.026	0.016	0.034	AA	0.616	AA	AA	1.3
10/16/09 1125	0.017	AA	0.008	0.017	0.002	0.026	AA	0.337	AA	AA	1.47
01/21/10 1043	0.04	AA		0.013	AA	0.013	AA	0.158	0.051		0.497
04/29/10 0947	0.0033	AA	AA	0.006	AA	AA	AA	AA	0.0172	0.0039	0.719
7/28/10 15:54	0.0086	AA 0.0002	0.0011	0.041	AA 0.002	AA 0.0002	AA 0.002	0.022	0.0088	0.0017	0.23
10/21/10 10:00	AA	AA	AA	0.0268	0.044	0.0084	AA	0.116	0.0044	AA	1.168
2/4/11 10:45	0.0031	0.0021	0.018	0.015	AA	0.012	AA	0.127	0.0388	0.0102	0.702
4/20/11 10:52	AA	AA	AA	0.011	AA	0.035	AA	0.301	AA	0.00092	0.785
7/29/11 1229	0.0048	AA	0.0066	0.011	AA	0.0027	AA	0.023	0.0029	AA	0.146
10/19/11 0931	AA	AA	0.009	0.012	AA	AA	AA	0.08	AA	AA	0.221
02/15/12 0904	AA	AA	AA	0.008	AA	AA	AA	0.043	AA	AA	0.176
04/26/12 1310	AA	AA	AA	0.01	AA	AA	AA	0.046	AA	AA	0.092
08/02/12 1508	AA	AA	0.01	0.018	AA	AA	AA	0.113	AA	AA	0.405
10/31/12 1041	AA	AA	0.011	0.011	AA	AA	AA	0.05	AA	AA	0.112
01/30/13 1039	AA	AA	AA	0.017	AA	AA	AA	0.088	AA	AA	0.163
05/01/13 0941	AA	AA	AA	0.015	AA	AA	AA	0.049	AA	AA	0.168
Average	0.0107	0.0020	0.0087	0.0164	0.0207	0.0194	#DIV/0!	0.1431	0.0205	0.0077	0.478
20% SF	0.013	-	0.010	0.020	0.025	-	#DIV/0!	0.172	-	0.009	0.574
Max	0.04	-	0.018	0.041	0.044	0.035	0	0.616	0.051	0.022	1.47
20% SF from Max	0.048	-	0.022	0.049	0.053	-	0.000	0.739	-	0.026	1.764

Metals Sampling for P&G (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
02/25/09 0951			AA	0.028	AA		AA	0.012			0.373
05/22/09 1011			AA	0.025	AA		0.0003	0.008			0.077
11/19/09 1018			0.008	0.034	AA		AA	0.018			0.222
02/25/10 1010			0.011	0.047	0.01		AA	0.022			0.417
12/2/10 9:08			AA	0.046	AA		AA	0.013			0.173
2/24/11 12:05			AA	0.037	AA		AA	0.018			0.143
5/26/11 9:05			0.027	0.081	0.012		AA	0.199			0.851
11/02/11 0922											
11/16/11 0942			AA	0.022	AA		0.0003	0.008			0.304
11/30/11 1033			AA	0.024	AA		AA	AA			0.32
01/06/12 0917											
06/06/12 0956			AA	0.031	AA		AA	AA			0.196
09/12/12 1018			AA	0.032	0.011		AA	0.011			0.466
10/05/12 0958			AA	0.031	AA		AA	AA			0.078
12/05/12 1028			0.008	0.032	AA 0.010		AA 0.002	0.018			0.480
02/01/13 1046			AA 0.007	0.016	AA 0.010		AA 0.0002	0.01			0.044
04/24/13 1049			AA	0.014	AA		AA	AA			0.048
Average	#DIV/0!	AA	0.0080	0.0253	0.0110	#DIV/0!	0.0003	0.0118	#DIV/0!	AA	0.2420
20% SF	-	-	0.0096	0.0303	0.0132	#DIV/0!	0.0004	0.0141	-	-	-
Max	0	-	0.008	0.032	0.011	0	0.0003	0.018	0	-	0.48
20% SF from Max	0.000	-	0.010	0.038	0.013	0.000	0.000	0.022	0.000	-	0.576

Metals Sampling for Nelson (2009 - 2013)

Res Rd	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
01/16/09 1024	0.003	0.0003	0.002	0.041	AA	AA	AA	0.023	0.001	AA	0.16
04/22/09 0935	AA	AA	AA	0.022	AA	AA	AA	0.005	AA	AA	0.056
08/07/09 1652	0.001	AA	AA	0.007	AA	0.034	AA	0.005	AA	AA	0.211
10/23/09 1105	AA	AA	AA	0.014	0.002	AA	AA	0.012	AA	AA	0.101
01/22/10 1121	0.035	AA		0.022	AA	0.004	AA	0.024	0.012		0.145
04/28/10 0947	0.004	0.001	AA	0.014	AA	AA	AA	0.004	0.008	AA	0.045
8/5/10 17:10	0.0054	AA 0.0002	AA 0.0002	0.009	AA 0.002	AA 0.0002	AA 0.002	AA 0.001	0.0018	0.0017	0.58
10/22/10 10:49	0.0017	AA	AA	0.011	AA	AA	AA	0.004	0.0033	AA	0.067
2/4/11 11:37	AA	0.0029	AA	0.022	AA	0.0188	AA	0.0186	0.0281	AA	0.069
4/29/11 11:13	AA	AA	AA	0.002	AA	AA	AA	AA	0.0021	AA	0.04
7/29/11 1354	0.0017	AA	AA	0.018	AA	AA	AA	AA	0.003	AA	0.133
10/21/11 0936	AA	AA	AA	0.009	AA	AA	AA	AA	AA	AA	0.043
02/10/12 0842	AA	0.003	0.012	0.02	AA	0.022	AA	AA	AA	AA	0.053
04/26/12 1240	AA	AA	AA	0.013	AA	AA	AA	AA	AA	AA	0.039
08/02/12 1545	AA	0.004	AA	0.009	AA	AA	AA	AA	AA	AA	0.052
11/09/12 0931	AA	AA	0.007	0.014	AA	AA	AA	AA	AA	AA	0.036
02/07/13 1014	AA	AA	AA	0.017	AA	AA	AA	AA	AA	AA	0.03
04/26/13 1018	AA	AA	AA	0.008	AA	AA	AA	AA	AA	AA	0.025
Nelson 2											
02/26/09 0946	0.01	0.002	AA	0.013	AA	AA	0.0002	AA	AA	AA	0.168
08/28/09 0906	0.005	AA	AA	0.012	AA	AA	AA	0.002	0.115	AA	0.216
11/20/09 1130	0.007	AA	AA	0.025	AA	AA	AA	AA	AA	AA	0.248
02/24/10 1004	0.02	AA	AA	AA	AA	AA	AA	AA	0.002	AA	0.054
5/20/10 9:31	AA	AA	AA	0.011	0.0052	AA	AA	AA	0.0034	AA	0.054
08/27/10 0903	AA	AA	AA	0.091	0.0021	AA	AA	0.003	AA	0.0051	0.399
11/24/10 8:59	0.0046	AA	AA	0.005	AA	0.0501	AA	AA	0.0045	0.0054	0.091
2/17/11 9:01	AA	0.0021	AA	0.011	AA	0.006	AA	0.018	AA	0.0082	0.091
6/1/11 9:10	0.002	AA	AA	0.005	AA	0.011	AA	0.004	0.0037	AA	0.018
09/01/11 0854	AA	AA	0.011	0.013	AA	AA	AA	AA	AA	AA	0.065
11/18/11 0915	AA	AA	0.013	0.015	AA	AA	AA	0.008	AA	AA	0.071
03/08/12 0926	AA	AA	AA	0.009	AA	AA	AA	AA	AA	AA	0.033
06/06/12 0906	AA	AA	AA	0.022	1.31	AA	AA	AA	AA	AA	0.116
Average	0.0077	0.0022	0.0090	0.0168	0.3298	0.0208	0.0002	0.0100	0.0145	0.0051	0.1132
20% SF	0.009	0.003	0.011	0.020	0.396	-	0.000	0.012	-	0.006	0.136
Max	0.035	0.004	0.013	0.091	1.31	0.0501	0.0002	0.024	0.115	0.0082	0.58
20% SF from Max	0.042	0.005	0.016	0.109	1.572	0.060	0.000	0.029	0.138	0.010	0.696

Metals Sampling for AmTrim LLC (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
07/30/09 1006	AA	AA	0.303	0.013	AA	AA	AA	0.263	AA	AA	0.01
09/25/09 0910	AA	AA	1.22	0.023	AA	AA	AA	0.925	AA	AA	AA
5/27/11 10:10	AA	AA	0.082	0.011	AA	AA	AA	0.104	AA	AA	0.024
05/30/12 1016	AA	AA	0.153	0.044	AA	0.057	AA	0.416	AA	AA	0.023
Average	#DIV/0!	#DIV/0!	0.4395	0.0228	#DIV/0!	0.0570	#DIV/0!	0.4270	#DIV/0!	AA	0.0190
20% SF	#DIV/0!	#DIV/0!	0.5274	0.0273	#DIV/0!	0.0684	#DIV/0!	0.5124	#DIV/0!	#VALUE!	0.023
Max	0.0000	0.0000	1.2200	0.0440	0.0000	0.0570	0.0000	0.9250	0.0000	0.0000	0.0240
20% SF from											
Max	0.000	0.000	1.464	0.053	0.000	0.068	0.000	1.110	0.000	0.000	0.029

Metals Sampling for Randall Bearing (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
06/17/09 1118	0.011	AA	AA	0.119	0.114	0.061	AA	AA	0.005	AA	0.042
6/23/10 9:51	AA	AA	AA	0.34	AA	0.0024	AA	0.04	AA	AA	0.059
6/23/11 8:40	AA	AA	AA	0.059	0.011	AA	AA	AA	0.005	AA	0.041
07/13/12 0916	AA	AA	AA	0.095	0.139	AA	AA	AA	AA	AA	0.035
Average	0.011	#DIV/0!	#DIV/0!	0.15325	0.088	0.0317	#DIV/0!	0.04	0.005	AA	0.04425
20% SF		#DIV/0!	#DIV/0!	0.184	0.106	0.038	#DIV/0!	0.048	0.006	#VALUE!	0.053
Max	0.011	0	0	0.34	0.139	0.061	0	0.04	0.005	0	0.059
20% SF from											
Max	0.013	0.000	0.000	0.408	0.167	0.073	0.000	0.048	0.006	0.000	0.071

Metals Sampling for St. Rita's Med Center (2009 - 2013)

Date/Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
04/01/09 0913	0.005	AA	AA	0.041	AA	0.151	AA	0.021	0.007	AA	0.088
06/18/09 1126	AA	AA	AA	0.024	AA	0.22	AA	AA	AA	AA	0.115
09/25/09 1005	AA	AA	AA	0.039	0.015	0.022	AA	AA	0.027	0.012	0.369
12/16/09 0941	0.126	AA	AA	0.07	AA	0.303	AA	AA	0.018	AA	0.179
03/19/10 1053	0.002	AA	AA	0.097	AA	0.033	AA	0.003	AA	AA	0.151
6/18/10 10:10	0.0072	AA	0.0117	0.053	AA	AA	AA	AA	0.0011	0.0013	0.203
9/29/10 9:40	0.0042	AA	AA	0.006	AA	0.201	AA	0.0013	0.0002	AA	0.097
12/16/10 12:27	AA	0.00078	AA	0.018	AA	0.426	AA	0.024	0.0026	AA	0.108
3/17/11 9:49	AA	0.00024	AA	0.024	AA	0.04	AA	AA	AA	AA	0.183
6/24/11 13:27	AA	AA	AA	0.039	AA	0.0076	AA	AA	0.0246	0.0076	0.087
09/28/11 0906	AA	AA	0.01	0.029	AA	0.907	AA	AA	AA	0.012	0.093
12/29/11 0924	AA	AA	AA	0.04	AA	0.105	AA	AA	AA	0.038	0.088
03/30/12 1026	AA	0.004	AA	0.052	AA	0.349	AA	AA	AA	0.017	0.079
07/11/12 1028	AA	0.006	0.011	0.036	AA	0.083	AA	AA	AA	0.006	0.13
10/12/12 1122	AA	AA	AA	0.042	AA	0.029	AA	AA	AA	0.005	0.09
01/03/13 1123	AA	AA	AA	0.044	AA	AA	AA	AA	AA	AA	0.074
03/27/13 0930	AA	AA	AA	0.04	AA	0.277	AA	AA	AA	0.011	0.149
Average	0.0289	0.0028	0.0109	0.0408	0.0150	0.2102	#DIV/0!	0.0123	0.0115	0.0122	0.134
20% SF	-	0.003	0.013	0.049	0.018	-	#DIV/0!	0.015	-	0.015	0.161
Max	0.126	0.006	0.0117	0.097	0.015	0.907	0	0.024	0.027	0.038	0.369
20% SF from Max	-	0.007	0.014	0.116	0.018	-	0.000	0.029	-	0.046	0.443

Metals Sampling for Superior Forge (2009 - 2013)

Date/Time	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
02/18/09 1009	0.002	AA	AA	0.023	AA	0.022	AA	0.002	0.006	AA	0.167
08/27/09 1149	0.003	AA	AA	0.028	0.006	AA	AA	0.01	AA	AA	0.143
02/19/10 1126	0.005	AA	AA	0.038	0.009	AA	AA	0.005	0.002	AA	0.074
8/25/10 8:55	0.0083	AA	AA	0.0072	0.0117	AA	AA	0.0023	0.0034	0.0035	0.171
2/16/11 11:35	AA	AA	AA	0.073	0.013	0.01	AA	0.019	AA	AA	0.091
08/26/11 1030	AA	AA	0.007	0.023	AA	0.027	AA	AA	AA	AA	0.059
03/09/12 1032	AA	AA	0.018	0.031	AA	0.034	AA	AA	AA	AA	0.056
09/21/12 1013	AA	0.004	0.081	0.236	0.012	0.052	AA	0.016	AA	AA	0.302
02/20/13 1015	AA	AA	0.029	0.034	AA	0.086	AA	0.009	AA	AA	0.054
Average	#DIV/0!	0.004	0.0338	0.0794	0.0125	0.0418	#DIV/0!	0.0147	AA	AA	0.1124
20% SF	#DIV/0!	-	0.041	0.095	0.015	-	#DIV/0!	0.018	-	-	0.135
Max	0	-	0.081	0.236	0.013	0.086	0	0.019	0	0	0.302
20% SF from Max	-	-	0.097	0.283	0.016	-	0.000	0.023	-	-	0.362

Metals Sampling for Whemco A (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
02/20/09 1032	0.005	AA	AA	0.003	AA	0.032	AA	0.002	0.004	AA	0.047
08/20/09 1915	0.007	AA	AA	0.016	0.018	AA	AA	0.021	0.015	AA	0.134
02/18/10 0957	0.018	0.002	AA	0.005	AA	0.039	AA	0.037	0.002	0.001	0.172
8/26/10 9:39	0.0031	AA	AA	0.031	AA	0.047	AA	AA	0.023	0.0101	0.029
2/18/11 12:21	AA	0.0022	AA	0.013	AA	0.025	AA	0.056	0.0019	AA	0.055
09/02/11 0909	AA	AA	AA	AA	AA	0.064	AA	0.013	AA	AA	0.019
03/07/12 0745	AA	AA	AA	AA	AA	0.107	AA	0.009	AA	AA	0.015
09/06/12 1042	AA	AA	AA	AA	AA	0.061	AA	0.02	AA	AA	0.023
02/27/13 0950	AA	AA	0.06	0.022	AA	0.064	AA	0.203	AA	AA	0.201
Average	0.0083	0.0021	0.0600	0.0150	0.0180	0.0549	#DIV/0!	0.0451	0.0092	0.0056	0.077
20% SF	0.010	-	0.072	0.018	0.022	-	#DIV/0!	0.054	-	0.007	0.093
Max	0.018	-	0.06	0.031	0.018	-	0	0.203	0.023	0.0101	0.201
20% SF from Max	0.022	-	0.072	0.037	0.022	-	0.000	0.244	0.028	0.012	0.241

Metals Sampling for Whemco B (2009 - 2013)

<u>Date/Time</u>	<u>As</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>	<u>Pb</u>	<u>Hg</u>	<u>Mo</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Zn</u>
02/20/09 1058	AA	AA	AA	0.002	AA	AA	0.0002	AA	0.006	AA	0.196
08/27/09 1117	AA	AA	AA	0.018	AA	AA	AA	0.0048	0.012	AA	0.131
02/18/10 1054	0.002	0.001	AA	AA	AA	AA	AA	0.009	0.02	AA	0.066
8/26/10 10:04	0.0032	AA	AA	0.031	AA	0.0037	AA	0.007	0.0039	AA	0.016
2/16/11 11:00	AA	AA	AA	0.009	AA	0.022	AA	0.039	AA	AA	0.041
09/02/11 0933	AA	AA	AA	0.019	AA	AA	AA	AA	AA	AA	0.01
03/09/12 1102	AA	AA	0.007	0.01	AA	0.039	AA	AA	AA	AA	0.024
09/06/12 1127	AA	AA	AA	AA	AA	0.053	AA	0.008	AA	AA	0.011
02/27/13 1027	AA	AA	AA	0.009	AA	0.065	AA	AA	AA	AA	0.01
Average	0.0026	0.001	0.0070	0.0140	AA	0.03654	0.0002	0.0136	0.0105	AA	0.056
20% SF	0.003	-	0.008	0.017	-	-	0.00024	0.016	0.013	-	0.067
Max	0.0032	-	0.007	0.031	-	-	0.0002	0.039	0.02	-	0.196
20% SF from Max	0.004	-	0.008	0.037	-	-	0.000	0.047	0.024	-	0.235

Metals Sampling Averages (2009 - 2013)

Sample Site	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
Ford	0.0009	0.0001	0.0034	0.0118	0.0027	0.0001	0.0100	0.0044	0.0013	-	0.0290
LATC	0.006	0.0150	0.0593	0.0801	0.0201	0.0819	-	0.0672	-	0.0095	0.2485
LTW	0.0306	0.0052	1.1505	0.0735	0.0794	0.0004	0.0681	0.0650	0.0369	0.0031	15.1247
LMH	0.008	0.0060	0.0200	0.0615	0.0505	0.2871	0.0003	0.0207	0.0035	0.0610	0.2308
Metokote	0.0107	0.002033	0.0087	0.0164	0.0207	0.019388	#DIV/0!	0.1431	0.020517	0.0077	0.4779
Nelson Pkg	0.0078	0.001922	0.0159	0.0191	0.2667	0.016207	0.0002	0.0165	0.014454	0.0029	0.1290
P & G	#DIV/0!	AA	0.0080	0.0253	0.0110	#DIV/0!	0.0003	0.0118	#DIV/0!	AA	0.2420
Randall Bearing	0.011	#DIV/0!	#DIV/0!	0.1533	0.0880	0.0317	#DIV/0!	0.0400	0.005	AA	0.0443
SRMC	0.0289	0.0028	0.0109	0.0408	0.0150	0.2102	#DIV/0!	0.0123	0.0115	0.0122	0.1343
Superior Forge	#DIV/0!	0.004	0.0338	0.0794	0.0125	0.0418	#DIV/0!	0.0147	AA	AA	0.1124
SMP	#DIV/0!	#DIV/0!	0.4395	0.0228	#DIV/0!	0.057	#DIV/0!	0.4270	#DIV/0!	AA	0.0190
Whemco A	0.0083	0.0021	0.0600	0.0150	0.0180	0.054875	#DIV/0!	0.0451	0.0092	0.0056	0.0772
Whemco B	0.0026	0.001	0.0070	0.0140	AA	0.03654	0.0002	0.0136	0.0105	AA	0.0561
Koop Rd LS	0.0066	0.0029	0.0153	0.0383	0.0090	0.0157	0.0002	0.0099	0.0090	0.0030	0.0888
Res Rd LS	0.0104	0.00211	0.0150	0.0575	0.0067	0.0118	0.0012	0.0173	0.00951	0.0117	0.170
Domestic / Commercial Average	0.0085	0.0025	0.0151	0.0479	0.0079	0.0138	0.0007	0.0136	0.0093	0.0074	0.1294

Note: All values in milligrams/liter (mg/l)

AA = Below Detection Limit

City of Lima, Ohio

Local Limits Technical Justification

I. Introduction

The city of Lima's ("city") most recent NPDES permit (#2PE00000*MD) became effective on January 1, 2013. As part of the permit's Schedule of Compliance requirements (Part I, C – Schedules (2)), the city was required to evaluate the adequacy of local industrial user limitations to attain compliance with all conditions of the permit. This included the submittal of a comprehensive Plan of Study that identified the domestic/background and industrial pollutant contributions, treatment plant removal efficiencies, loadings discharged through the city's combined sewer overflows, and receiving water concentrations. The data was entered into an Excel spreadsheet provided by OEPA, and the resultant calculations were the basis for the new local limits.

The last full local limits study completed by the city of Lima was in 2002 using the Excel spreadsheets provided by Andrew Conway of the OEPA. Maximum allowable headworks loadings (MAHLs) were calculated (in lb/day) using a 20% safety factor and industries were given non-uniform limits based on their historical data from the past three years of sampling. For example, if Industry A's maximum measured discharge concentration of copper during the past three years was 1.0 mg/L, they were given an industrial user (IU) permit limit of 1.20 mg/L, or 20% higher than their highest measured value. That concentration was then converted to lb/day using their average daily flow, and that value was subtracted from the MAHL value for copper. After this was completed for every industry, the amount of copper left from the MAHL was put in the 'bank', which the Director of Utilities could then reallocate to other existing or potential new industrial dischargers. This process was then repeated for each pollutant of concern (POC) for which the data indicated a local limit was needed.

The city completed a technical review of the local limit study submitted in 2002 in 2008 and 2011. Neither of these reviews indicated a dramatic change in the data to justify a complete recalculation of local limits. Added to that is the fact that in 2009, Lima lost one of its metal finishing industries and two other industries have significantly reduced their production, and therefore their water usage, and the need for a new local limit study is even further decreased.

In the past ten years, Lima has had issues with only two metals – mercury and copper. Just like many other municipalities, most of the issues with mercury can be attributed to dental offices. Lima officials have met with the local dentists on several occasions to discuss this. As technology in the dental industry has changed, nearly all of Lima's dentists have gone away from the mercury amalgam fillings in favor of other, non-mercury alternatives for routine fillings. Several dentists have told Lima officials that, in rare cases, an amalgam filling is the only plausible alternative to repair a tooth. It is still the most reliable filling material available.

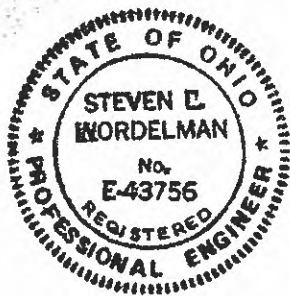
City of Lima
Local Limits Technical Justification Study Report

August 2013

I have reviewed this report that has been prepared by the City of Lima and revised under my direction and that I am familiar with its contents. These technically based local limits are adequate to prevent pass-through water quality violations, contamination of the sludge and inhibition of the wastewater treatment process, except mercury which is being managed through the State's variance program.

Engineer's Seal and Signature is Affixed Below

Professional Engineer's Seal



Steven L. Wordelman

Steven L. Wordelman
Date

OHIO EPA - DSW
2013 AUG 16 AM 9:11

For all industries, the numerical mercury limit will remain at 0.001 mg/L with an additional requirement to continue to develop a mercury minimization plan for their facility. Lima feels it is better to allow the IUs to develop their own plans initially, as they are the 'subject matter experts' for their own particular industry. Rather than Lima trying to remake any industry and force it to come into compliance with what we think it is best, we will allow each industry to police itself as long as they do so in an environmentally-conscious manner to reduce their mercury contribution to the collection system. If an industry chooses to develop a plan that is blatantly inadequate, Lima will then step in to require a more stringent plan. Lima also intends to do the same thing with the local dentists, although they will have more guidance from the Ohio Dental Association.

As for copper, Lima has had only five effluent samples in the past five years exceed 10 ug/L. A majority of the time the effluent sample concentration was below detection limits. For reasons unknown at this time, Lima receives high concentrations of copper (>100 ug/L) in the WWTP influent. The majority of this is removed by the sludge process, but some will occasionally be released through the plant effluent. Sampling of the industries has not shown any industry that routinely discharges high levels of copper, but if every industry were to discharge at their higher end of a permit limit at a high flow, it is possible for the Lima WWTP to receive an abnormally high amount of copper on any given day. Lima will begin further investigation of this shortly by sampling various lift stations for copper to see if there is a point source for higher levels of copper in the collection system.

Unlike the previous formal local limits study, this one was not presented to the local industries for their evaluation and comments prior to submittal to OEPA. The city did not feel it was necessary as the MAHLs did not change significantly, so it will have little impact on the IUs. Lima will continue to use the individual allocation method based on need for distribution rather than the uniform allocation method. Several industries have negotiated with the city for a higher allocation than the data suggests they need only to allow them a slightly larger safety level to avoid violations. For instance, several local industries' data indicated they only needed a certain level of a POC, but were given a higher limit in a categorical regulation. Lima agreed to give them the same limit as their categorical limit because it was available in the 'bank' and it made it easier for enforcement if there was only one limit to enforce.

II. Facility Profile

All discharges to the sanitary and combined sewer collection system are treated at the Lima Wastewater Treatment Plant (WWTP). WWTP processes include screening, grit removal, primary clarification, activated sludge, final clarification, nitrification, chlorination, dechlorination, and anaerobic digestion. Treated water is then discharged to the Ottawa River.

Digested solids are currently converted to Lim-A-Soil through an N-Viro[®] process, an EPA-approved process that produces a sludge that meets 40 CFR 503 Class A requirements. In this process, digested solids with approximately 6.7% solids is mixed with polymer and applied to a belt press. The filter cake coming off the belt press is approximately 30% solids. The filter cake is then mixed with lime (or a lime substitute) and fly ash from electrical generating power plants and conveyed to a bunker to pasteurize for 72 hours. The final product, Lim-A-Soil, must have a pH greater than 12.0 and be at least 50% solids to meet the 503 regulations. The city is now using Wright Mulch to market this product to farmers and keep the storage facilities sufficiently empty for additional Lim-A-Soil.

III. Data Sources and Collection

Data for this study consisted of plant and industrial data from the last four years. During the last study, it was discovered that the necessary data to complete the study was not compiled anywhere. That has since been corrected and all industrial data now resides in an Excel spreadsheet where it is easily accessible. All plant data is in an OPERATOR 10 database and also easily accessible. Lima's average daily flow for the past five years increased to 14.63 MGD from 13.22 MGD in the last formal study, while the daily industrial contribution decreased to 0.57 MGD from 1.03 MGD in 2002. This dramatic decrease has occurred because of the loss of one industry and several other industries either dramatically reducing their production or changing to water-conserving practices. As a result, data prior to 2009 was not included in this local limits evaluation, since the data prior to that year is no longer representative of the current IU loading.

MAHLs and MAILs (maximum allowable industrial loadings) were calculated using the Microsoft Excel spreadsheet supplied to the city by OEPA. Data for this part of the study was collected from monthly OEPA reports for the POTW for the last four years. Removal efficiencies for the plant processes (influent to effluent) were calculated from the actual plant data. Other removal efficiencies for which there was insufficient data to calculate were taken from data tables in the *Local Limits Development Guidance Appendices, USEPA, 2004*. All samples taken were analyzed according to the methods outlined in 40 CFR 136.

All industrial metals analyses conducted on samples collected by city personnel during the same time period were also considered in determining POCs. Once a numerical value was arrived at from the Excel spreadsheets, past data was examined to determine if the industries have been meeting that limit already. This examination indicated that there would have been occasional violations, but none of the industries would have been in significant noncompliance (SNC) for any parameter in the past five years. This would indicate that, if the industries keep their pretreatment programs operating at or above current efficiencies, the new limits are at a level that both the city and the industries can be comfortable with.

No sampling of the collection system occurred for this study. Data from the last study indicated very little value to doing so. As stated before, sampling will occur soon for copper only to attempt to find any large contributors the city is currently unaware of.

Industry-Specific Local Limits

	40 CFR 433 Max Daily Limits (mg/L)	Ford	Joint Systems Manufacturing Center	Lima Tank Wash	Lima Memorial Hospital	Metokote	Nelson Packaging	P & G	Randall Bearing	St. Rita's Medical Center	Superior Forge & Steel	American Trim	Whemco
Ave. Daily Flow (gpd)		71300	64200	5500	32300	35700	7400	209000	3400	93000	3960	21500	17000

Individualized Concentration Limits (in mg/L)

Chromium	2.77	0.030	0.800	0.200	0.050	1.800	0.200	0.200	0.010	0.070	0.100	2.770	0.050
Copper	3.38	0.300	1.400	0.840	0.080	0.133	0.300	0.300	0.500	0.250	0.280	0.800	0.050
Lead	0.69	0.030	0.340	0.120	0.100	0.120	0.050	0.050	0.150	0.020	0.016	0.130	0.030
Nickel	3.98	0.150	0.500	0.360	0.120	0.800	0.100	0.100	0.050	0.050	0.030	2.380	0.250
Zinc	2.61	1.000	1.800	3.100	0.410	1.200	0.600	1.000	0.100	0.450	0.400	0.200	0.250

Resulting Pounds of POC Produced based on Average Flow

														Total
Chromium	0.018	0.428	0.009	0.013	0.536	0.012	0.349	0.000	0.054	0.003	0.497	0.007		1.93
Copper	0.178	0.750	0.039	0.022	0.040	0.019	0.523	0.014	0.194	0.009	0.143	0.007		1.94
Lead	0.018	0.182	0.006	0.027	0.036	0.003	0.087	0.004	0.016	0.001	0.023	0.004		0.41
Nickel	0.089	0.268	0.017	0.032	0.238	0.006	0.174	0.001	0.039	0.001	0.427	0.035		1.33
Zinc	0.595	0.964	0.142	0.110	0.357	0.037	1.743	0.003	0.349	0.013	0.036	0.035		4.38

**Total Ave
Daily Flow
(gpd)**

564,260

	Total Lbs. To Give (2013)	Total Lbs. Dist	Lbs. Banked	% MAIL Banked	2002 Study Total Lbs. To Give	% Increase / Decrease
Chromium	26.2	1.93	24.3	92.6	67.87	-61.4
Copper	7.20	1.94	5.3	73.1	12.05	-40.2
Lead	5.63	0.41	5.22	92.8	3.08	82.8
Nickel	7.86	1.33	6.53	83.1	9.65	-18.5
Zinc	12.7	4.38	8.3	65.5	20.08	-36.7

IV. Proposed Local Limits

Limits for the industries on the city's collection system were calculated using just the individual allocation method. Since the city has adopted this allocation method, the number of metals violations has decreased. The only POC for which all stakeholders will be handled uniformly will be mercury. A discussion of each POC and the amount banked will be presented in the following section.

It is the city's intention to keep the local limits concentration-based and not loadings-based. The city does not wish to impose a pounds-per-day limit on the industries. With the amount of POCs that were reserved for each metal, there is no evidence that imposing a daily loadings limit on the industries would be necessary at this point. Also, now that the data tables have been established for this study, the city intends to update them at regular intervals to insure that the MAILs calculated for this study remain valid quantities. Should their validity become questionable, the city will act to adjust them accordingly.

The Industry-Specific Local Limits and MAILs are shown on the following page.

V. Discussion of Each Pollutant

(1) Antimony (Sb), Arsenic (As), Cadmium (Cd), Cyanide (CN), Molybdenum (Mo), Selenium (Se), & Silver (Ag)

No limits will be set for any of the POCs listed above at this time. Data available at this time does not support the city's need to set limits for them, as they are rarely present in the residential sampling, nor they do not show up in significant quantities in any industrial discharges.

(2) Total Chromium (Cr)

Local limits for Cr will be imposed upon local industries. Currently, only one of the local industries uses Cr in their processes. This will leave the city with a Cr bank of approximately 24 lbs, or 92% of the total MAIL.

(3) Copper (Cu)

Limits for Cu will be imposed upon the local industries. Calculations show that the city will reserve about 73% of its MAIL while distributing less than two pounds to the industries.

(4) Lead (Pb)

Limits for lead will be imposed upon the local industries. Although lead has not been a real issue with the WWTP or local industries, the city will continue to enforce the limits established. The limits set allow the city to bank over 92% of its MAIL.

(5) Mercury (Hg)

The city will continue its attempts to decrease Hg in the WWTP influent. Industries have already done their part to assist in this, as evidenced by sampling results. Dental offices are moving toward the elimination of amalgams whenever possible. It is the City's opinion that there is still mercury present in the collection system and Lima will have to contend with it for years to come.

The city has not taken any major steps in the regulation of dental offices because, in 2010, USEPA announced its intentions to release new categorical regulations for dental offices in 2012. When contacted earlier this year, a USEPA official said not to expect anything before 2014.

The city has taken a stance that it does not want to enact regulations that are contrary to USEPA regulations for dental offices and have to backtrack later to come in compliance. It is the general consensus that it is in the city's best interest to keep talking with the dental offices and working with them to try to reduce their mercury discharge without taking any authoritative actions not backed up by state or federal regulations. Therefore, members of the city's staff will continue to talk to local dentists to gather and dispense information concerning mercury so that when regulations are enacted, the city can take action expeditiously.

(6) Nickel (Ni)

Limits for Ni will be imposed upon the local industries. Only 27% of the MAIL is being allocated to the industries. Limits will be adjusted for three industries to be able to bank this amount. All three industries have been contacted and agree that this should not be an issue based on their past discharge sampling. This will provide an adequate bank for the city to work with.

(7) Zinc (Zn)

Limits for Zn will be imposed upon the local industries. Zinc had the largest increase in allocated pounds for industry in this review. The new limit will still allow the city to bank over 65% of its MAIL.

VI. Additional Information

Appendix A contains all of the background information needed to perform the calculations for this study. Appendix B contains the Excel spreadsheets used to calculate the MAILs and the new local limits as well as the comparison of values derived from all of the available sources. Appendix C contains data from the sampling of the distribution system and from the sampling of the local industries, which was also used to calculate the limits under the individual allocation method.

VII. Comments

Other than Ni, the city has no intention to decrease the limits in any of the IUs' permits. Using the numbers in their current permits, the POTW still has sufficient levels of each POC banked to feel comfortable that no issues will evolve, while the industries have permit limits they can meet. Decreasing their limits is not justified.

Lima WWTP Flows (2009 - 2013)

<u>Month</u>	<u>Total Flow (MG)</u>
January, 2009	271.17
February, 2009	485.51
March, 2009	478.71
April, 2009	584.23
May, 2009	424.15
June, 2009	312.83
July, 2009	296.76
August, 2009	278.63
September, 2009	264.75
October, 2009	382.63
November, 2009	294.19
December, 2009	367.73
January, 2010	341.63
February, 2010	321.33
March, 2010	612.07
April, 2010	366.43
May, 2010	472.30
June, 2010	473.35
July, 2010	345.01
August, 2010	346.22
September, 2010	274.97
October, 2010	286.29
November, 2010	393.02
December, 2010	343.71
January, 2011	334.78
February, 2011	511.56
March, 2011	668.66
April, 2011	631.22
May, 2011	667.76
June, 2011	309.67
July, 2011	285.41
August, 2011	368.86
September, 2011	476.53
October, 2011	471.38
November, 2011	555.65
December, 2011	724.85
January, 2012	583.60
February, 2012	444.48
March, 2012	509.36
April, 2012	356.38
May, 2012	341.65
June, 2012	297.01
July, 2012	297.55
August, 2012	361.01
September, 2012	396.24
October, 2012	478.36
November, 2012	288.29
December, 2012	433.51
January, 2013	553.86
February, 2013	413.53
March, 2013	568.82
April, 2013	617.53
May, 2013	346.20

Total Days in Time Period = 1612
Total Flow in Time Period = 22,311.33 MG

(2009-2013) Average Daily Flow = 13.84 MGD

Appendix A

Background Data for Calculating Local Limits

Metals Sampling for Koop Road Lift Station (Background) 2009 - 2013

	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
01/21/09 1226	0.008	AA	AA	0.039	AA	AA	AA	0.013	0.001	AA	0.149
02/19/09 1154	0.003	AA	AA	0.017	AA	0.003	AA	0.002	0.011	AA	0.044
04/01/09 0837	0.013	0.0002	AA	0.034	AA	AA	AA	0.005	0.008	AA	0.069
04/16/09 1112	0.012	AA	AA	0.019	AA	AA	AA	AA	0.002	AA	0.005
05/21/09 1005	0.002	0.003	AA	0.031	AA	0.011	AA	0.004	0.004	0.008	0.141
06/17/09 1044	0.003	AA	AA	0.049	0.017	0.075	AA	0.012	AA	AA	0.099
07/30/09 1041	0.008	0.001	AA	0.078	AA	0.025	AA	0.016	0.001	AA	0.153
08/20/09 1839	0.009	AA	AA	0.038	AA	AA	AA	AA	0.042	AA	0.154
09/17/09 0928	0.005	AA	AA	0.043	0.003	0.011	AA	AA	0.015	AA	0.173
10/21/09 0946	0.006	AA	AA	0.041	AA	0.008	AA	AA	AA	AA	0.202
11/25/09 1049	0.008	0.003	AA	0.121	AA	0.013	AA	0.031	AA	AA	0.19
12/16/09 1129	0.005	AA	AA	0.032	AA	AA	AA	AA	AA	AA	0.081
01/21/10 1233	0.024	0.001		0.034	AA	0.009	AA	0.01	0.014		0.115
02/19/10 1047	0.014	0.002	AA	0.022	0.007	AA	AA	0.015	0.002	0.002	0.103
03/19/10 1006	AA	AA	AA	0.047	AA	AA	AA	0.006	AA	0.002	0.061
04/29/10 0901	0.002	AA	0	0.088	AA	AA	AA	0.002	0.008	0.001	0.069
5/21/10 9:30	0.0021	AA	AA	0.0066	AA	AA	AA	AA	0.0083	AA	0.157
6/23/10 8:57	0.0031	AA	0.0014	0.229	AA	AA	AA	0.011	AA	0.0019	0.169
7/29/10 17:38	0.0047	AA	AA	0.047	AA	AA	AA	0.01	0.0049	AA	0.072
8/25/10 9:49	0.0073	AA	AA	0.049	AA	AA	AA	AA	0.0034	AA	0.099
9/29/10 8:53	0.0013	0.0008	AA	0.049	AA	0.0005	AA	0.0051	0.0016	AA	0.057
10/21/10 11:40	0.0016	AA	AA	0.041	AA	0.006	AA	0.0021	AA	AA	0.086
12/2/10 10:00	0.0049	AA	AA	AA	AA	0.0054	AA	AA	0.0087	AA	0.039
12/16/10 11:37	0.0016	0.0054	AA	0.006	AA	0.0103	AA	0.013	AA	AA	0.049
2/2/11 10:02	0.0099	0.0011	AA	0.062	AA	0.021	AA	0.0064	0.0286	0.0058	0.142
2/18/11 11:46	AA	0.01	AA	0.014	AA	0.0089	AA	0.023	AA	AA	0.034
3/17/11 9:16	AA	AA	AA	0.009	AA	AA	AA	AA	AA	AA	0.064
4/20/11 10:06	AA	AA	AA	0.025	AA	0.0401	AA	AA	AA	0.00047	0.069
6/1/11 10:30	AA	AA	AA	0.013	AA	0.0039	AA	0.004	0.0008	AA	0.048
7/7/11 8:32	AA	AA	AA	0.024	AA	AA	AA	AA	AA	AA	0.071
8/03/11 1735	AA	AA	AA	0.039	AA	AA	AA	AA	0.0068	AA	0.11
08/26/11 0913	AA	AA	AA	0.02	AA	AA	AA	AA	AA	AA	0.053
09/28/11 0827	AA	AA	AA	0.026	AA	AA	AA	AA	AA	AA	0.052
11/02/11 1031	AA	AA	AA	0.029	AA	AA	AA	AA	AA	AA	0.044
11/18/11 0954	AA	AA	AA	0.016	AA	AA	AA	AA	AA	AA	0.032
12/29/11 0849	AA	AA	AA	0.015	AA	AA	AA	AA	AA	AA	0.042
02/03/12 0830	AA	AA	0.007	0.016	AA	AA	AA	AA	AA	AA	0.04
03/07/12 1045	AA	AA	AA	0.014	AA	AA	AA	AA	AA	AA	0.034
03/30/12 0907	AA	AA	0.077	0.023	AA	AA	0.0003	AA	AA	AA	0.115
04/25/12 1044	AA	AA	0.008	0.029	AA	AA	0.0002	AA	AA	AA	0.061
05/25/12 0929	AA	AA	0.027	0.062	AA	AA	AA	0.008	AA	AA	0.22
07/11/12 0934	AA	AA	0.009	0.035	AA	AA	0.0002	AA	AA	AA	0.105
08/01/12 1715	AA	0.003	AA	0.039	AA	AA	AA	AA	AA	AA	0.1
09/07/12 0920	AA	AA	0.01	0.042	AA	AA	AA	AA	AA	AA	0.124
10/12/12 1046	AA	0.004	AA	0.068	AA	AA	AA	AA	AA	AA	0.122
11/07/12 0925	AA	AA	AA	0.020	AA	AA	AA	AA	AA	AA	0.075
12/06/12 1108	AA	AA	AA	0.022	AA	AA	AA	AA	AA	AA	0.06
01/02/13 1041	AA	AA	AA	0.052	AA	AA	AA	AA	AA	AA	0.046
02/06/13 1030	AA	AA	0.014	0.019	AA	AA	AA	AA	AA	AA	0.068
03/08/13 1010	AA	AA	0.008	0.016	AA	AA	AA	AA	AA	AA	0.045
04/05/13 0947	AA	AA	AA	0.017	AA	AA	AA	AA	AA	AA	0.055
04/26/13 0922	AA	AA	0.007	0.025	AA	AA	AA	AA	AA	AA	0.052
Average	0.0066	0.0029	0.0153	0.0383	0.0090	0.0157	0.0002	0.0099	0.0090	0.0030	0.0888

Metals Sampling for Reservoir Road Lift Station (Background) 2009 - 2013

	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
01/22/09 1108	0.05	0.002	AA	0.043	AA	AA	0.0005	0.059	0.002	AA	1.89
02/25/09 1037	0.004	AA	AA	0.018	AA	AA	0.0002	AA	0.004	AA	0.175
04/02/09 0930	0.007	AA	AA	0.025	AA	AA	AA	0.007	0.01	AA	0.12
04/17/09 0916	0.005	AA	AA	0.025	AA	AA	AA	AA	0.004	0.012	0.116
06/10/09 0908	AA	AA	AA	0.026	AA	0.004	AA	AA	AA	0.024	0.201
07/01/09 0959	AA	AA	AA	0.016	AA	0.007	AA	AA	AA	AA	0.102
08/07/09 1616	0.002	0.001	AA	0.009	AA	0.021	AA	0.011	AA	AA	0.184
09/04/09 0835	AA	AA	0.002	0.232	0.014	0.009	AA	AA	0.023	AA	0.184
09/17/09 1006	AA	AA	AA	0.022	AA	0.011	AA	AA	0.011	AA	0.215
10/23/09 1145	0.009	AA	AA	0.018	0.003	AA	AA	AA	0.002	AA	0.124
11/20/09 1155	0.005	0.0006	AA	0.031	AA	AA	AA	0.003	0.014	AA	0.23
12/17/09 1108	0.044	AA	AA	0.481	AA	AA	AA	AA	0.003	AA	0.145
01/22/10 1049	0.02	AA	AA	0.239	AA	0.002	AA	AA	0.017	AA	0.206
02/25/10 0905	0.003	0	AA	0.006	AA	AA	AA	0.02	0.002	AA	0.186
03/17/10 0940	0.005	AA	AA	0.017	AA	AA	AA	0.009	AA	AA	0.137
04/28/10 0846	0.005	AA	AA	0.043	AA	AA	AA	0.005	0.004	AA	0.099
05/19/10 1107	0.0021	AA	0.0037	0.018	0.0025	AA	AA	AA	AA	AA	0.535
6/17/10 8:15	AA	AA	AA	0.219	AA	AA	AA	0.034	0.0012	AA	0.114
8/5/10 16:16	AA	AA	AA	0.033	AA	AA	0.0029	AA	0.0023	0.0046	0.518
08/27/10 1107	0.0015	AA	AA	0.047	0.0041	AA	AA	0.0038	AA	AA	0.122
9/23/10 9:56	AA	AA	AA	0.015	AA	AA	AA	AA	0.004	AA	0.131
10/22/10 10:03	0.0019	AA	AA	0.021	AA	0.0057	AA	0.0024	AA	AA	0.104
12/2/10 9:22	AA	AA	AA	0.011	AA	0.0048	AA	0.006	0.0558	AA	0.079
12/17/10 10:58	AA	0.0016	AA	0.195	0.0016	0.041	AA	0.044	AA	AA	0.1
2/4/11 12:18	AA	0.0026	AA	0.035	AA	0.022	AA	0.024	0.0024	AA	0.134
2/17/11 9:40	AA	AA	AA	0.014	0.015	0.009	AA	0.027	AA	0.0062	0.085
3/30/11 9:56	AA	AA	AA	0.016	AA	AA	AA	AA	AA	AA	0.13
4/29/11 10:41	AA	AA	AA	0.012	AA	AA	AA	0.004	AA	AA	0.079
6/1/11 9:42	0.0014	AA	AA	0.181	AA	0.0052	AA	AA	AA	AA	0.076
7/1/11 9:43	AA	AA	AA	0.025	AA	AA	AA	AA	AA	AA	0.103
8/03/11 1555	AA	AA	AA	0.023	AA	AA	AA	AA	AA	AA	0.086
09/01/11 1001	AA	AA	0.011	0.083	AA	AA	AA	AA	AA	AA	0.138
09/30/11 1022	AA	AA	AA	0.016	AA	AA	AA	AA	AA	AA	0.057
10/28/11 0910	AA	AA	AA	0.021	AA	AA	AA	AA	AA	AA	0.064
11/16/11 1014	AA	AA	AA	0.014	AA	AA	AA	AA	AA	AA	0.046
01/06/12 0955	AA	AA	AA	0.027	AA	AA	AA	AA	AA	AA	0.091
02/09/12 1007	AA	AA	AA	0.026	AA	AA	AA	AA	AA	AA	0.069
03/15/12 1035	AA	AA	AA	0.018	AA	AA	AA	AA	AA	AA	0.094
03/28/12 1058	AA	AA	0.042	0.014	AA	AA	AA	AA	AA	AA	0.084
05/02/12 0958	AA	AA	0.007	0.043	AA	AA	AA	AA	AA	AA	0.198
05/30/12 1110	AA	AA	0.009	0.028	AA	AA	AA	AA	AA	AA	0.133
07/12/12 1022	AA	AA	0.038	0.046	AA	AA	AA	AA	AA	AA	0.120
08/08/12 1814	AA	AA	AA	0.022	AA	AA	AA	AA	AA	AA	0.127
09/12/12 1152	AA	AA	AA	0.321	AA	AA	AA	AA	AA	AA	0.182
10/11/12 1020	AA	0.007	AA	0.023	AA	AA	AA	AA	AA	AA	0.102
11/09/12 1006	AA	AA	0.007	0.027	AA	AA	AA	AA	AA	AA	0.098
12/06/12 1021	AA	AA	AA	0.026	AA	AA	AA	AA	AA	AA	0.087
01/04/13 1007	AA	AA	AA	0.027	AA	AA	AA	AA	AA	AA	0.091
02/07/13 1051	AA	AA	AA	0.026	AA	AA	AA	AA	AA	AA	0.072
03/07/13 1128	AA	AA	AA	0.02	AA	AA	AA	AA	AA	AA	0.081
04/03/13 1023	AA	AA	AA	0.027	AA	AA	AA	AA	AA	AA	0.117
04/24/13 1110	AA	AA	AA	0.019	AA	AA	AA	AA	AA	AA	0.079
Averages	0.0104	0.0021	0.0150	0.0575	0.0067	0.0118	0.0012	0.0173	0.0095	0.0117	0.1700

WWTP Pollutants of Concern - Raw Data

Plant Influent

Month	Sb	As	Cd	Cr	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	Zn
Jan-09			5.10	AA 0.2	48.0	AA 0.01	AA 2.0	82.1		41.00			108
Feb-09			0.55	AA 0.2	29.0	AA 0.01	3.00	17		13.00			84
Mar-09			AA 0.2	AA 0.2	40.0	AA 0.01	AA 2.0	33.9		4.00			38
Apr-09			AA 0.2	AA 0.2	24.0	AA 0.01	3.00	12.1		18.00			88
May-09			4.30	AA 0.2	84.0	AA 0.01	AA 2.0	120.2		11.00			113
Jun-09			2.00	3.1	38.0	AA 0.01	AA 2.0	29.9		7.00			175
Jul-09			AA 0.2	AA 0.2	11.0	AA 0.01	4.20	154.8		12.10			107
Aug-09			0.31	4.7	13.0	AA 0.01	AA 2.0	30.9		34.00			173
Sep-09			AA 0.5	5.1	40.4	AA 0.01	2.80	24.4		3.70			183
Oct-09			2.10	1.9	53.0	AA 0.01	AA 2.0	28.2		13.00			209
Nov-09			AA 0.2	AA 0.2	31.0	AA 0.01	AA 2.0	26.3		AA 1.0			170
Dec-09			2.80	0.7	35.0	AA 0.01	3.10	59.4		38.00			179
Jan-10			AA 0.2	AA 0.2	16.0	AA 0.01	AA 2.0	17.7		16.00			112
Feb-10			1.10	4.0	39.0	AA 0.01	2.90	101.5		23.00			123
Mar-10			AA 0.2	AA 0.2	4.0	AA 0.01	AA 2.0	8.9		AA 1.0			24
Apr-10			1.60	AA 0.2	48.0	AA 0.01	AA 2.0	22.9		31.00			177
May-10			0.78	6.0	46.0	AA 0.01	13.10	18.4		2.80			223
Jun-10			3.20	AA 0.2	36.0	AA 0.01	11.10	23.4		38.00			84
Jul-10			AA 0.2	2.9	80.0	AA 0.01	AA 2.0	25.75		9.40			151
Aug-10			1.00	AA 0.2	37.0	AA 0.01	AA 2.0	19.5		8.00			62
Sep-10			AA 0.2	4.6	25.0	AA 0.01	AA 2.0	21.3		AA 1.0			144
Oct-10			0.21	AA 0.2	45.0	AA 0.01	25.80	93.3		8.40			138
Nov-10			0.98	AA 0.2	62.0	AA 0.01	3.80	24		79.00			199
Dec-10			AA 0.2	AA 0.2	12.0	AA 0.01	AA 2.0	22.4		19.00			84
Jan-11			0.81	AA 0.2	17.0	AA 0.01	AA 2.0	13.1		19.30			132
Feb-11			AA 0.2	AA 0.2	36.0	AA 0.01	AA 2.0	17.6		5.00			116
Mar-11			2.50	4.0	27.0	AA 0.01	AA 2.0	35.4		1.80			97
Apr-11			2.30	AA 0.2	14.5	AA 0.01	AA 2.0	19.1		29.60			68
May-11			1.20	12.1	36.0	AA 0.01	AA 2.0	53.1		27.00			105
Jun-11			AA 0.2	AA 0.2	20.0	AA 0.01	AA 2.0	29.2		AA 1.0			74
Jul-11			AA 0.2	AA 0.2	66.0	AA 0.01	AA 2.0	89.8		5.00			59

WWTP Pollutants of Concern - Raw Data

Aug-11		AA 0.2	AA 0.2	24.0	AA 0.01	AA 2.0	15.4	5.00	99
Sep-11		AA 3	AA 7	71.0	AA 0.01	AA 10	29	AA 8	148
Oct-11		AA 3	AA 7	40.0	AA 0.01	AA 10	13.4	AA 8	146
Nov-11		AA 3	AA 7	40.0	AA 0.01	AA 10	23.9	AA 8	120
Dec-11		AA 3	AA 7	10.0	AA 0.01	AA 10	23.5	AA 8	37
Jan-12		AA 3	AA 7	30.0	AA 0.01	AA 10	58.6	8.00	105
Feb-12		AA 3	AA 7	17.0	AA 0.01	AA 10	11.5	AA 8	40
Mar-12		AA 3	AA 7	21.0	AA 0.01	AA 10	13	AA 8	63
Apr-12		AA 3	AA 7	23.0	AA 0.01	AA 10	12.1	AA 8	65
May-12		AA 3	AA 7	24.0	AA 0.01	AA 10	53.6	AA 8	77
Jun-12		3.00	10.0	58.0	AA 0.01	20.00	22.5	11.00	193
Jul-12		3.00	8.0	35.0	AA 0.01	AA 10	27.7	8.00	120
Aug-12		AA 3	AA 7	14.0	AA 0.01	AA 14	31.6	AA 8	82
Sep-12		AA 3	20.0	55.0	AA 0.01	27.00	33.8	19.00	148
Oct-12		AA 3	10.0	22.0	AA 0.01	AA 20	11.6	AA 8	265
Nov-12		AA 3	AA 7	16.0	AA 0.01	AA 10	16.3	AA 8	55
Dec-12		AA 3	AA 7	20	AA 0.01	AA 10	82.7	AA 8	49
Jan-13	AA 5.0	AA 3.0	AA 10	25	AA 0.01	AA 10.0	8.06	19 AA 4.0	52
Feb-13	AA 5.0	AA 3	AA 7	16	AA 0.01	AA 10	12.1	AA 8 AA 4.0	65
Mar-13	AA 5.0	AA 3	AA 7	17	AA 0.01	AA 10	6.6	AA 8 AA 4.0	67
Apr-13	AA 5.0	AA 3	11	38	AA 0.01	21	126	10 AA 4.0	120
Ave.		1.94	6.76	33.25		10.83	36.70	17.56	113.75
Max.		5.1	20	84		27	154.8	79	265

All metals concentrations are in ug/L except Hg, which is ng/L

WWTP Pollutants of Concern - Raw Data

Plant Effluent

Month	Sb	As	Cd	Cr	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	Zn
Jan-09			AA 0.2	AA 0.2	24.00	AA 0.01	AA 2.0	4.5		3.00			40
Feb-09			AA 0.2	AA 0.2	2.00	AA 0.01	AA 2.0	4.8		AA 1.0			36
Mar-09			AA 0.2	AA 0.2	16.00	AA 0.01	AA 2.0	3.1		2.00			25
Apr-09			AA 0.2	AA 0.2	3.00	AA 0.01	AA 2.0	2.3		AA 1.0			28
May-09			AA 0.2	84.00	16.00	AA 0.01	AA 2.0	3.9		1.90			44
Jun-09			AA 0.2	AA 0.2	4.00	AA 0.01	AA 2.0	1.3		AA 1.0			63
Jul-09			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	5.8		AA 1.0			28
Aug-09			AA 0.2	AA 0.2	4.00	AA 0.01	AA 2.0	2.1		3.00			48
Sep-09			AA 0.5	AA 2.0	8.00	AA 0.01	AA 2.0	3.2		AA 0.2			45
Oct-09			AA 0.2	AA 0.2	6.00	AA 0.01	AA 2.0	3		AA 1.0			39
Nov-09			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	2.4		AA 1.0			84
Dec-09			AA 0.2	AA 0.2	3	AA 0.01	AA 2.0	2.6		2			80
Jan-10			AA 0.2	AA 0.2	4	AA 0.01	AA 2.0	2.3		AA 1.0			45
Feb-10			AA 0.2	AA 0.2	4	AA 0.01	AA 2.0	3		AA 1.0			33
Mar-10			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	2.6		AA 1.0			4
Apr-10			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	2		2.6			48
May-10			AA 0.2	AA 0.2	4	AA 0.01	AA 2.0	4.9		AA 1.0			45
Jun-10			AA 0.2	AA 0.2	8	AA 0.01	AA 2.0	1.5		AA 1.0			14
Jul-10			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	6.2		AA 1.0			31
Aug-10			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	4.7		AA 1.0			26
Sep-10			AA 0.2	AA 0.2	6	AA 0.01	AA 2.0	3.8		AA 1.0			32
Oct-10			AA 0.2	AA 0.2	4	AA 0.01	AA 2.0	7.15		AA 1.0			30
Nov-10			AA 0.2	AA 0.2	3	AA 0.01	AA 2.0	5.2		2.1			37
Dec-10			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	3.7		AA 1.0			30
Jan-11			AA 0.2	AA 0.2	AA 2.0	AA 0.01	AA 2.0	4.2		AA 1.0			31
Feb-11			AA 0.2	AA 0.2	9	AA 0.01	AA 2.0	2.8		AA 1.0			32
Mar-11			AA 0.2	AA 0.2	4	AA 0.01	AA 2.0	7.55		AA 1.0			42
Apr-11			AA 0.2	AA 0.2	10	0.010	AA 2.0	6.6		AA 1.0			28
May-11			AA 0.2	AA 0.2	7	AA 0.01	AA 2.0	8.7		AA 1.0			50
Jun-11			AA 0.2	AA 0.2	5	AA 0.01	AA 2.0	3.4		AA 1.0			21
Jul-11			AA 0.2	AA 0.2	19	AA 0.01	AA 2.0	2.8		AA 1.0			113

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Aug-11	AA 0.2	AA 0.2	7	AA 0.01	AA 2.0	5.7	AA 1.0	18
Sep-11	AA 3	AA 7	AA 8	AA 0.01	AA 10	6.09	AA 8	AA 10
Oct-11	AA 3	AA 7	AA 8	AA 0.01	AA 10	0.836	AA 8	15
Nov-11	AA 3	AA 7	AA 8	AA 0.01	AA 10	3.15	AA 8	16
Dec-11	AA 3	AA 7	AA 8	AA 0.01	AA 10	4.03	AA 8	14
Jan-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.29	AA 8	14
Feb-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	2.66	AA 8	19
Mar-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	0.556	AA 8	17
Apr-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.4	AA 8	14
May-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.84	AA 8	26
Jun-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.5	10	24
Jul-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	AA 0.500	AA 8	28
Aug-12	AA 3	AA 7	AA 8	AA 0.01	AA 15	AA 0.500	AA 8	AA 10
Sep-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	0.906	AA 8	17
Oct-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	0.701	AA 8	AA 10
Nov-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.09	AA 8	24
Dec-12	AA 3	AA 7	AA 8	AA 0.01	AA 10	0.848	AA 8	16
Jan-13 AA 5.0	AA 3.0	AA 10	AA 10	AA 0.01	AA 10.0	1.84	AA 8 AA 4.0	19
Feb-13 AA 5.0	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.87	AA 8 AA 4.0	AA 10
Mar-13 AA 5.0	AA 3	AA 7	AA 8	AA 0.01	AA 10	1.04	AA 8 AA 4.0	23
Apr-13 AA 5.0	AA 3	AA 7	AA 8	AA 0.003	AA 10	1.06	AA 8 AA 4.0	25
Ave.	84.000	7.500	0.010		3.210	3.325		32.938
Max.	84	24			8.7	10		113

All metals concentrations are in ug/L except Hg, which is ng/L.

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Sludge

Month	Sb	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn
Jan-09		16.66	3.29		163.61	177.50	0.272	7.63	31.81	5.04		309.02
Feb-09		39.76	1.15		111.80	22.50	0.341	2.82	23.70	13.20		199.4
Mar-09		39.76	1.15		111.80	22.50	0.341	2.82	23.70	13.2		199.4
Apr-09		14.93	4.13		173.08	40.82	AA 0.010	4.34	32.09	23.97		174.39
May-09		13.52	3.16		200.43	34.78	AA 0.01	6.90	39.43	3.60		260.36
Jun-09		14.64	2.45		253.47	28.27	AA 0.010	4.30	37.01	2.87		193.08
Jul-09		2.04	1.20		191.33	24.19	0.03	1.92	31.94	1.81		85.251
Aug-09		6.99	3.74		251.46	46.70	AA 0.010	6.49	67.39	4.03		218.49
Sep-09		30.7	4.56		181.48	28.39	0.286	3.77	45.53	0.41		212.46
Oct-09		3.05	1.69		110.03	30.19	0.165	1.73	33.38	AA 1.0		80.018
Nov-09		5.24	1.842		88.23	23.505	0.363	3.24	30.547	3.2		83.692
Dec-09		8.37	1.50		143.18	24.05	0.191	22.04	23.93	2.22		86.623
Jan-10		4.26	1.13		108.44	19.26	0.275	19.94	21.32	1.08		117.7
Feb-10		6.39	1.58		92.91	15.52	5.252	12.91	18.52	1.40		92.064
Mar-10		4.62	1.87		120.51	13.09	0.334	2.68	28.30	3.89		143.13
Apr-10		4.32	1.37		196.10	21.98	0.192	3.76	19.31	4.52		162.9
May-10		6	1.23		128.77	30.50	0.152	2.37	30.13	2.40		146.91
Jun-10		13.76	1.10		148.56	38.37	0.186	AA 0.400	36.67	12.22		168.93
Jul-10		3.09	2.41		325.00	14.40	0.213	AA 0.400	18.00	1.74		222
Aug-10		6.15	4.39		144.00	6.99	0.122	7.48	48.50	0.78		138
Sep-10		8.13	0.90		89.30	32.10	0.103	10.00	30.90	8.00		136
Oct-10		5.55	1.24		121.00	25.60	0.108	8.47	36.00	1.57		205
Nov-10					(None produced)							
Dec-10		7.67	1.63		136.46	3.81	0.457	1.59	44.60	11.03		251.22
Jan-11		0.66	0.70		203.00	41.30	0.108	2.20	30.00	4.04		259
Feb-11		5.24	0.79		129.00	34.20	0.131	2.79	27.30	1.00		105
Mar-11		AA 0.010	0.57		98.90	31.00	0.142	19.70	24.10	1.09		106
Apr-11		1.52	0.92		200.62	39.93	0.318	1.21	42.64	5.49		208.37
May-11		3.95	1.52		183.00	47.90	0.304	15.10	23.30	2.53		194
Jun-11		1.75	1.06		190.00	45.90	0.198	7.41	40.40	1.67		152
Jul-11		1.08	1.08		155.00	52.20	0.538	2.89	53.00	2.63		130

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Aug-11	20.1	8.75	136.00	55.60	1.38	11.70	45.10	16.80	228
Sep-11	9	7.86	134.00	51.70	0.546	11.50	39.90	AA 5.89	218
Oct-11	11.2	6.69	118.00	45.60	0.565	10.60	34.00	5.16	186
Nov-11	10.5	7.02	132.00	52.00	0.861	11.00	35.60	AA 0.616	199
Dec-11	11.5	6.57	121.00	46.40	0.385	10.50	31.90	2.61	196
Jan-12	8.7	1.53	103.00	11.80	0.321	13.90	38.30	5.70	274
Feb-12	15.4	5.64	101.00	43.60	0.473	11.70	27.30	2.17	253
Mar-12	10.5	4.25	79.50	39.80	0.256	8.09	21.10	2.98	194
Apr-12	9.1	5.46	74.90	47.30	AA 0.149	16.30	24.00	4.12	284
May-12	9.3	10.20	87.60	85.50	0.241	29.20	56.20	5.86	488
Jun-12	8.6	5.48	80.20	39.90	0.185	10.40	24.00	AA 0.588	235
Jul-12	8.35	5.61	89.40	40.40	0.224	23.50	27.30	3.71	234
Aug-12	8.87	5.39	89.80	31.40	0.173	31.00	25.90	3.33	216
Sep-12	9.63	6.40	104.15	36.35	0.234	31.20	26.90	3.35	273
Oct-12	16.85	5.85	93.80	32.10	0.164	29.90	25.50	4.13	276
Nov-12	10.4	5.68	86.30	31.20	0.297	33.20	28.00	4.17	205
Dec-12	7.2	3.01	101.00	20.50	0.172	44.70	27.90	AA 0.616	200
Jan-13 AA 0.768	12.4	5.28	82.00	33.90	0.19	23.00	25.30	5.20	181
Feb-13	15.1	4.69	86.40	43.30	0.353	18.80	29.70	3.86	161
Mar-13 AA 0.85	11.2	4.24	63.10	31.10	0.15	33.50	28.00	4.88	156
Apr-13 AA 1.9	9.4	3.85	69.50	23.50	0.215	18.20	25.10	2.90	140
Ave.	10.26	3.43	133.00	36.48	0.40	12.66	32.17	4.82	192.89
Max.	39.76	10.2	325	177.5	5.252	44.7	67.387	23.97	488

All metals concentrations are in mg/kg