



## Department of Public Works

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6/11/2018

Certified Mail #70101870000239833336

To: Adam Yates  
ADEQ  
5301 Northshore Drive  
North Little Rock Arkansas 72118

Pretreatment Department

Randy Reese  
Pretreatment Coordinator  
1508 Silver Valley Road  
Harrison, Arkansas 72601  
Office: 870.741.4426  
Fax: 870.741.5022  
[www.cityofharrison.com](http://www.cityofharrison.com)  
[randy.reese@cityofharrison.com](mailto:randy.reese@cityofharrison.com)

Re: 2018 Pace Industries Revised Industrial Discharge Permit

Dear Mr. Yates;

Enclosed please find Pace Industries' revised industrial discharge permit. The permit has been revised to reflect the current processes at the facility. Please feel free to contact me if you have any question or comments. I can be reached by phone at 870-741-5527 or by email at [Kathryn.catlin@cityofharrison.com](mailto:Kathryn.catlin@cityofharrison.com).

Sincerely,

Kathryn Catlin  
Wastewater Systems Manager

## FACT SHEET

### 2018 REVISION OF PERMIT NO. 005

#### 1. SYNOPSIS OF APPLICANT INFORMATION

a. Name and address of applicant

Pace Industries, Inc.  
513 Highway 62-65 North  
Post Office Box 1198  
Harrison, Arkansas 72602

Contact Person: Mark Maddox  
Phone: (870) 204-2200

b. Description of Applicant's Operation

Pace Industries is an aluminum die caster primarily producing shells for barbeque grills. Pace only produces the raw castings. Other manufactures then utilize the aluminum cast grill shells to manufacture completed grills. Standard Industrial Classification Code No. is 3363 .

c. Production Data

Pace Industries, Inc. has reported pouring an average of 0.2435 M-lbs of aluminum per day over the last twelve months.

d. Description of Pollution Abatement Facilities

Wastewater from aluminum die casting operation by chemical precipitation, phenols oxidation by use of hydrogen peroxide, and pH adjustment before discharge to the POTW via Outfall No. 001. Wastestreams from sanitation facilities are discharged to the POTW at points other than via Outfall No. 001.

e. Description of Discharges

The information Provided by Pace Industries, Inc. includes last twelve months of discharge monitoring reports including analyses for permit limited pollutants and daily flow records for pretreated combined regulated and non-regulated non-

contact cooling water flows at outfall No. 001. The following is a tabulation of the content of the combined waste stream at outfall No. 001:

Average flow Regulated by 40 CFR 464.15 (a)(b)(c)(d) & (h)

Al. Die Cast, Al. Cast Clean, Al. Casting Quench, Al. Dust Collection and Mold Cooling Operation	9,458 gpd <sup>1</sup>
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Average Dilution Flow:

Non- Contact Cooling water	1,100 gpd <sup>1</sup>
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Total Average Pretreated Wastewater

Reported at Outfall No. 001	10,558 gpd <sup>1</sup>
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<sup>1</sup> Based on Pace's discharge monitoring reports.

## 2. EFFLUENT LIMITATIONS

The basis of the following proposed Effluent Limits for Pace Industries, Inc. is concentration base limits developed based on combined wastestream formula, reported average daily production expressed in Mlb/day poured, reported estimated average daily regulated and non-regulated and dilution wastewater streams and mass limits expressed in lb/Mlb poured prescribed per 40 CFR 464.15, Pretreatment Standards for Existing Sources and 40 CFR 464.46, 40 CFR 433.17 New Sources. Calculations of the following effluent limitations is attached (attachment A). These effluent limitations must be met after pretreatment at Outfall No. 001.

<u>Parameter</u>	<u>Daily</u> <u>Maximum</u>	<u>Monthly</u> <u>Average</u>
Copper (T), mg/l	1.69	0.92
Lead (T), mg/l	1.74	0.86
Zinc (T), mg/l	2.51	0.95
Phenols (T), mg/l	0.72	0.25
TTO, mg/l	4.39	1.43

The basis of the following proposed Effluent Limits for Pace Industries, Inc. is concentration limits prescribed by the Harrison Sewer Use Ordinance.

<u>Parameter</u>	Daily <u>Maximum</u>	Monthly <u>Average</u>
Oil & Grease	100	
pH	6.0 –10.0	
Temperature	150° F (66° C)	
Daily Flows, gpd		
Al Die Cast	Report	Report
Non-Contact Cool	Report	Report
Outfall No. 001	Report	Report

### 3. MONITORING REQUIREMENTS

- a. Sampling and analysis of industrial wastes discharged into the Harrison wastewater system shall be performed by Pace Industries, Inc at no cost to the City of Harrison.
- b. Samples shall be taken on production and/or cleanup days. The day of the week on which the samples are taken may be varied and shall be determined by the Director of Public Works
- c. The frequency of monitoring shall be monthly, unless the magnitude of potential effect of wasteloads and/or the results of monitoring indicate the need as determined by the Director of Public Works for more or less frequent monitoring. The frequency of compliance monitoring shall in no case be less than that required for categorical industries by 40 CFR 403.12, twice per year in months of June and December.
- d. Samples for required analyses shall be 24-hour composite samples except that temperature, pH, total phenols, volatile organics, and oil and grease shall be performed on grab samples.
- e. Samples for required analyses shall be taken at Outfall No. 001. The sampling point is the flow measuring flume downstream of pretreatment system which is located just inside the west side (HWY 62-65 side) of the Pace building, about midway between South and North ends of the building.

#### **4. REPORTING REQUIREMENTS**

In addition to effluent analytical results of permit limited pollutants discharged to Harrison Sewer System, Pace Industries is required to submit monthly production data in Mlb of Aluminum poured, daily pretreated industrial wastewater flow data measured at Outfall No. 001, daily non-contact cooling water used and daily wastewater from Aluminum Die Casting operations. All reports must be submitted monthly by the last day of the following month.

#### **5. STANDARD CONDITIONS**

The industrial waste discharge permit of Pace Industries, Inc. will include all the standard condition required by the City of Harrison.

**INDUSTRIAL WASTES DISCHARGE PERMIT**

**PERMIT NO. 005-15**

In compliance with the provisions and conditions of the City of Harrison City Code and with any applicable provisions of federal or state of Arkansas law or regulation,

Pace Industries, Inc.  
513 HWY 62-65 North  
P.O. Box 1198  
Harrison, Arkansas 72601

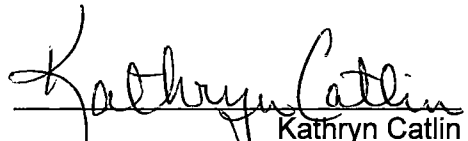
is authorized to discharge industrial wastes from activities classified by SIC Nos. 3363 from premises located at the above address to the Harrison wastewater collection system in accord with the application for permit submitted to the City of Harrison on June 1, 2015, supplemented by review of discharge monitoring reports submitted by Pace for the past twelve months, Fact Sheet developed for this renewal, effluent limitations, monitoring requirements, and conditions set fourth in Parts I, II, III hereof.


This permit shall become effective on April 2, 2018.

This permit and authorization to discharge shall expire at midnight April 7, 2021.

This permit is not transferable to persons, companies, or processes other than to which it is originally used.

Signed this 8<sup>th</sup> day of June, 2018

  
Kathryn Catlin  
Wastewater System Manager

  
Wade Phillips  
Director of Public Works

**PERMIT NO. 005-15**

**PART 1-EFFLUENT LIMITATIONS**

OUTFALL NO. 001 - WASTESTREAMS OF PRETREATED REGULATED WASTEWATER FROM ALUMINUM DIE CAST OPERATION AND NON-CONTACT COOLING WATER AFTER PRETREATMENT, CASTING CLEANING, CASTING QUENCH AND DUST COLLECTION. Die cast process wastewater regulated by National Categorical Standard for Aluminum Die Casters – 40 CFR 464.15 (c) & (h). Pretreated wastewater is discharged continuously from this outfall. This waste stream shall be monitored for the following listed pollutants, as set forth by Part II-Monitoring Requirements:

<u>Pollutant Parameter</u>	<u>Maximum for Any One Day</u>	<u>Maximum for Monthly Average</u>	<u>Type of Sample</u>	<u>Frequency of Analysis</u>
Copper (T), mg/l	1.69 <sup>1</sup>	0.92 <sup>1</sup>	Composite	Monthly
Lead (T), mg/l	1.74 <sup>1</sup>	0.86 <sup>1</sup>	Composite	Monthly
Zinc (T), mg/l	2.51 <sup>1</sup>	0.95 <sup>1</sup>	Composite	Monthly
Phenols (T), mg/l	0.72 <sup>1</sup>	0.25 <sup>1</sup>	Grab	Monthly
TTO, mg/l	4.39 <sup>1</sup>	1.43 <sup>1</sup>	Composite	Semi Annual (June&December)
PH, S.U.	6.0-10.0 <sup>3</sup>		Monthly	
Oil & Grease, mg/l	100 <sup>3</sup>		Monthly	
Temperature	150°F (66°C) <sup>3,5</sup>		Monthly	
Daily Flows, gpd				
Al. Die Cast	Report	Report		
Non-Contact Cooling	Report	Report		
Outfall No. 001	Report	Report		

<sup>1</sup> Combined Waste stream in accord with 40 CFR 403.6 (e), with process wastewater and dilution stream as follows:

<u>Wastestream Number</u>	<u>Regulated By</u>	<u>Description</u>	<u>Avg. Daily flow</u>
1	40 CFR 464.15, (a)(b)(c)(d)(h) (0.2435 Mlb/day)	Al. Die Cast Al. Mold Cooling Al. Cast Clean Al. Cast Quench Al. Dust Collection	9,458 gpd <sup>01</sup>
2	Dilution	Non-Contact Cooling	<u>1,100 gpd<sup>01</sup></u>

Average Total Flows:	10,558 gpd <sup>01</sup>
Average Dilution Flows	1,100 gpd <sup>01</sup>

Dilution Factor:  $\frac{10,558 \text{ gpd} - 1,100 \text{ gpd}}{10,558 \text{ gpd}} = 0.90$

<sup>01</sup> Based on Pace's monitoring reports for the last twelve months.

<sup>2</sup> Optional Alternate Oil & Grease shall only apply if Pace should opt to meet this limitation as an alternative to limit for TTO's, if Pace opts to meet the limit for TTO's then the only limit for Oil & Grease that applies would be that limited by the Local Harrison Municipal Code of 100 mg/l for any one day.

<sup>3</sup> Local Sewer Use Ordinance, Harrison Municipal Code.

<sup>4</sup> Oil & Grease limit of 100 mg/l for any one day shall apply only if Pace should opt to meet the limit for TTO's set forth herein as alternate to limit for Alternate Oil & Grease.

<sup>5</sup> Pace Industries shall not discharge heat in amounts that in combination with heat discharge to the sewer from other sources will inhibit biological activity at the Wastewater Treatment Plant, thereby resulting in interference with the wastewater treatment process.

#### **PERMIT NO. 005-15**

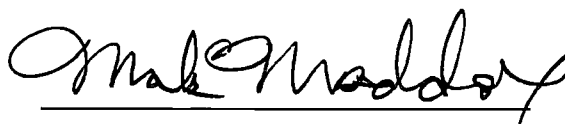
#### **PART II – MONITORING REQUIREMENTS**

1. Pace Industries, Inc (Pace) shall provide a sampling access facility on its process pretreatment waste line at a point before the building sewer discharge mixes with other discharges in the public sewer. The location, configuration, and equipment contained in the sampling access facility shall be approved by the Director of Public Works.
2. Sampling and analysis of industrial waste discharge into the Harrison wastewater system shall be performed by Pace at no cost to the City of Harrison. The analyses shall be performed in accord to with 40 CFR 136 as amended or other test procedures approved by the Approval Authority by a laboratory acceptable by the Director of Public Works. The results of analyses shall be reported monthly to the Director of Public Works and shall include the following certification executed by a principal of Pace.



### Certification of Monitoring Reports

"I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that this information was obtained in accordance with the requirements of 40 CFR 403.12. Moreover, based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

  
Signature

EHS Manager  
Title

3. Samples shall be taken on production and/or cleanup days. The day of the week on which the samples are taken may be varied and shall be determined by the Director of Public Works. Pace shall be notified by telephone of the selected sampling period, with follow-up documentation in writing.
4. The frequency of monitoring shall be monthly, unless the magnitude of potential effect of wasteloads and/or the results of monitoring indicate the need as determined by the Director of Public Works for more or less frequent monitoring. The frequency of compliance monitoring shall in no case be less than required for Categorical Industries by 40 CFR 403.12, twice per year in months of June and December. These samples shall be 24-hour composite samples except that temperature, pH, oil and grease, volatile organics, and cyanide shall be performed on grab samples. If composite samples cannot be performed over a 24-hour period as required by the permit due to lack of effluent from

the pretreatment process, the times that the samples were collected must be state on the chain of custody.

5. The Pace Industries, Inc. monitoring point shall be:

Outfall No. 001 - Effluent line from pretreatment system, flow monitoring flume downstream of pretreatment which is located just inside the West side (Hwy. 62-65 side) of the Pace building, about midway between South and North ends of building.

6. In addition to effluent analytical results of permit limited pollutants discharged to the Harrison Wastewater System, Pace Industries shall, semi-annually in months of June and December, submit monthly production data in M-lb of Aluminum, daily process wastewater from Aluminum Die Casting operations, daily non-contact cooling water used and daily pretreated combined wastewater flow measured at Outfall No. 001.
7. Discharged Monitoring Reports shall be submitted to the director of Public Works by the last day of the month following the month during which the data was obtained.
8. In compliance with 40 CFR 403.12 (g) (2), if sampling performed by Pace Industries indicates a violation, Pace shall notify the Director of Public Works within 24 Hours of becoming aware of the violation. Pace industries shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Director of Public Works within 30 days after becoming aware of the violation.

**PERMIT NO. 005-15**

**PART III – CONDITIONS OF PERMIT**

1. Pace Industries, Inc (Pace) shall pay to the City of Harrison the amount of \$\_\_\_\_\_, which amount represents the costs incurred by the City of Harrison for evaluating Pace's request for an Industrial Discharge Permit.

2. Plans and specification for monitoring access facilities and for pretreatment facilities shall be approved the Director of Public Works prior to construction.
3. Pace shall notify the Harrison Wastewater Treatment Plant Superintendent immediately (telephone no. (870) 741-2525) once aware of any spill/slug loading of any pollutant released to the Harrison sewer system in such strength and/or volume as to cause interference in the wastewater treatment plant or cause conditions hazardous to operating personnel, equipment, the public, or the environment. Immediate appropriate action shall be taken by Pace to mitigate any adverse effects of spills/slug loading.
4. Pace shall notify the Director of Public Works in advance, in writing, of any change in production or treatment process that would significantly affect either the volume or character of wastewaters discharged to the Harrison sewer system.
5. Documentation of the disposal of sludge classified as "hazardous wastes" by a method and at a site approved by the appropriate state of Arkansas and federal regulatory agencies shall be maintained by Pace.
6. Pace shall, in Compliance with 40 CFR 403.12 (P)(1), notify the City of Harrison, EPA Region VI Waste Management Division and Arkansas Department of Environmental Quality Hazardous Waste Division in writing of any discharge into the POTW of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR 261.
7. For the purpose of determining whether the Harrison Municipal Code and/or any permit or order issued hereunder is being met and whether Pace Industries is complying with all requirements thereof, the Director of Public Works and/or his authorized representative, Environmental Protection Agency (EPA) inspectors, and Arkansas Department of Environmental Quality (ADEQ) inspectors shall have access to production, materials storage and wastewater pretreatment areas of Pace Industries plant. Such access shall include ready access to all parts of the premises for the purpose of inspection, sampling, records examination and copying, and the performance of any additional duties. Pace Industries shall retain for a minimum of three years any records of waste discharge monitoring activities and results and shall make such records of monitoring available for inspection and copying by the Director of Public Works or his designated representative. Access shall be during production

and/or cleanup shifts. Upon presentation of suitable identification, the Director of Public Works or his designated representative, EPA inspectors, and ADEQ inspectors shall be permitted to enter immediately for performing the above duties.

8. This permit may be reopened by the City of Harrison any time during the effective duration for revisions to discharge limitations, monitoring and/or reporting requirements or conditions.
9. Provided that Pace has submitted acceptable application for renewal at least six months prior to the expiration date set forth on the permit cover sheet, this permit shall remain in effect until the City of Harrison has either issued a renewal permit or has notified the permittee in writing that the permit will not be renewed.
10. Pace shall be subject applicable civil and criminal penalties for violations of pretreatment standards and requirements, provisions, and conditions of this permit as provided for by Arkansas State Statutes and the Harrison Code or Ordinances. In accordance with the Sewer Use-Pretreatment Ordinance #1352, any user which has violated or continues to violate this ordinance, any order or wastewater discharge permit hereunder, or any other pretreatment standard or requirement shall be liable to the City of Harrison for a maximum civil penalty of One Thousand Dollars (\$1,000.00) per violation per day, as provided by Acts of Arkansas No. 884 of 1991 Legislature. In the case of violation of a monthly or other long-term average discharge limit, penalties shall accrue for each day during the period of the violation.
11. As defined by Section 10.08.03 (17) of the Harrison Municipal Code, the Director of Public Works or Public Works Director, where the stated in this permit shall also mean "or his duly appointed or authorized representative."
12. The City of Harrison can terminate the permit at any time for any reason.
13. The industrial user shall not bypass their pretreatment operation at anytime for any reason.
14. Industry users shall not dilute their wastewater.

**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**COPPER:**

**(A) Aluminum Casting Cleaning Operations Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0771 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.01877573 lbs/day

**Aluminum Casting Cleaning Operation Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0421 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.010252377 lbs/day

**(B) Aluminum Casting Quench Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0093 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.002264777 lbs/day

**Aluminum Casting Quench Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0051 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.001241974 lbs/day

**(C) Aluminum Die Cast Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0066 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.001607261 lbs/day**

**Aluminum Die Cast Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0036 lbs/M-lbs)\*(0.24532 M-lbs/day)

Mass Limit= **.000876688 lbs/day**

**(D) Aluminum Dust Collection Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.231 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.056254134 lbs/day**

**Aluminum Dust Collection Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Attachment A

$$\text{Mass limit} = (0.126 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = .030684073 \text{ lbs/day}$$

(H) Mold Cooling Mass Limits Max 1- Day:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.297 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = 0.072326743 \text{ lbs/day}$$

Mold Cooling Mass Limits Max Monthly Average:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.162 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = .039450951 \text{ lbs/day}$$

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

Combined Mass Limit:

Combined mass limits were determined by summing the Aluminum Casting cleaning, Casting quench, Die cast, Dust collection mass and Mold Cooling mass limits for Max 1-Day and Max Monthly Average.

$$\text{Combined Mass Limit of Max 1-Day} = 0.151228645$$

$$\text{Combined Mass Limit of Max Monthly} = 0.082506062$$

**Concentration Limits**

**Copper Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.151228645 \text{ lb/day})}{(0.009458 \text{ Mgd} * 8.34)}$$

$$\text{Concentration} = 1.917150073 \text{ mg/l}$$

**Copper Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.082506062 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 1.045942745 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

**Copper Max 1-Day**

$$C_T = \frac{(1.917 \text{ mg/l} * 0.009458)}{0.009458}$$

$$\frac{0.009458 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.009458 \text{ Mgalpd}}$$

$$C_T = 1.69 \text{ mg/l}$$

**Copper Max Monthly Average**

$$C_T = \frac{(1.046 \text{ mg/l} * 0.009458 \text{ Mgalpd})}{0.0095}$$

$$\frac{0.009458 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.009458 \text{ Mgalpd}}$$

$$C_T = .92 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.

**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**LEAD:**

(A) Aluminum Casting Cleaning Operations Mass Limits Max 1-Day

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.0791 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.019262779 lbs/day

Aluminum Casting Cleaning Operation Max Monthly Average

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.039 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.009497451 lbs/day

(B) Aluminum Casting Quench Mass Limits Max 1-Day

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.0096 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.002337834 lbs/day

Aluminum Casting Quench Max Monthly Average

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0047 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = 0.001144565 lbs/day

(C) Aluminum Die Cast Mass Limits Max 1- Day:

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0068 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.001655966 lbs/day**

Aluminum Die Cast Mass Limits Max Monthly Average:

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0034 lbs/M-lbs)\*(0.24532 M-lbs/day)

Mass Limit= **.000827983 lbs/day**

(D) Aluminum Dust Collection Mass Limits Max 1- Day:

Mass Limit = pollutant regulation\* average production

Mass limit = (0.237 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.05771528 lbs/day**

Aluminum Dust Collection Mass Limits Max Monthly Average:

Mass Limit = pollutant regulation\* average production

Attachment A



$$\text{Mass limit} = (0.117 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{.028492353 \text{ lbs/day}}$$

(H) Mold Cooling Mass Limits Max 1- Day:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.305 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{0.074274938 \text{ lbs/day}}$$

Mold Cooling Mass Limits Max Monthly Average:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.151 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{.036772183 \text{ lbs/day}}$$

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

#### Combined Mass Limit:

Combined mass limits were determined by summing the Aluminum Casting cleaning, Casting quench, Die cast, Dust collection mass and Mold Cooling mass limits for Max 1-Day and Max Monthly Average.

$$\text{Combined Mass Limit of Max 1-Day} = \mathbf{0.155246797}$$

$$\text{Combined Mass Limit of Max Monthly} = \mathbf{0.076734534}$$

#### **Concentration Limits**

##### **LEAD Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.155246797 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = \mathbf{1.968088843 \text{ mg/l}}$$

##### **LEAD Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.076734534 \text{ lb/day})}{(0.009458 \text{ Mgpd} * 8.34)}$$

$$\text{Concentration} = 0.972776148 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

**LEAD Max 1-Day**

$$C_T = \frac{(1.9681 \text{ mg/l} * 0.009458)}{0.009458}$$

$$\frac{0.009458 \text{ Mgpd} * .0011 \text{ Mgpd}}{0.009458 \text{ Mgpd}}$$

$$C_T = 1.74 \text{ mg/l}$$

**LEAD Max Monthly Average**

$$C_T = \frac{(0.9728 \text{ mg/l} * 0.009458 \text{ Mgpd})}{0.009458}$$

$$\frac{0.009458 \text{ Mgpd} * .0011 \text{ Mgpd}}{0.009458 \text{ Mgpd}}$$

$$C_T = .86 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.

**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**ZINC:**

**(A) Aluminum Casting Cleaning Operations Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.114 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = **0.02776178 lbs/day**

**Aluminum Casting Cleaning Operation Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0431 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = **0.0104959901 lbs/day**

**(B) Aluminum Casting Quench Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.0138 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = **0.003360637 lbs/day**

**Aluminum Casting Quench Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0052 lbs/M-lbs) \* (0.24352 M-lbs/day)

Mass Limit = **0.001266327 lbs/day**

**(C) Aluminum Die Cast Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0098 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.002386539 lbs/day**

**Aluminum Die Cast Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0037 lbs/M-lbs)\*(0.24532 M-lbs/day)

Mass Limit= **.00090104 lbs/day**

**(D) Aluminum Dust Collection Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.343 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.083528865 lbs/day**

**Aluminum Dust Collection Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Attachment A

$$\text{Mass limit} = (0.129 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{.031414646 \text{ lbs/day}}$$

(H) Mold Cooling Mass Limits Max 1- Day:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.44 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{0.10715073 \text{ lbs/day}}$$

Mold Cooling Mass Limits Max Monthly Average:

$$\text{Mass Limit} = \text{pollutant regulation} * \text{average production}$$

$$\text{Mass limit} = (0.166 \text{ lbs/M-lbs}) * (0.24532 \text{ M-lbs/day})$$

$$\text{Mass Limit} = \mathbf{.040425048 \text{ lbs/day}}$$

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

#### Combined Mass Limit:

Combined mass limits were determined by summing the Aluminum Casting cleaning, Casting quench, Die cast, Dust collection mass and Mold Cooling mass limits for Max 1-Day and Max Monthly Average.

$$\text{Combined Mass Limit of Max 1-Day} = \mathbf{0.224188551}$$

$$\text{Combined Mass Limit of Max Monthly} = \mathbf{0.084502962}$$

#### **Concentration Limits**

##### **ZINC Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.224188551 \text{ lb/day})}{(0.00946 \text{ Mgd} * 8.34)}$$

$$\text{Concentration} = \mathbf{2.842074649 \text{ mg/l}}$$

##### **ZINC Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.084502962 \text{ lb/day})}{(0.00946 \text{ Mgpd} * 8.34)}$$

$$\text{Concentration} = 1.07125777 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

**ZINC Max 1-Day**

$$C_T = \frac{(2.842074649 \text{ mg/l} * 0.00946)}{0.00946}$$

$$\frac{0.00946 \text{ Mgpd} * .0011 \text{ Mgpd}}{0.00946 \text{ Mgpd}}$$

$$C_T = 2.51 \text{ mg/l}$$

**ZINC Max Monthly Average**

$$C_T = \frac{(1.07125777 \text{ mg/l} * 0.00946 \text{ Mgpd})}{0.00946}$$

$$\frac{0.00946 \text{ Mgpd} * .0011 \text{ Mgpd}}{0.00946 \text{ Mgpd}}$$

$$C_T = .95 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.

**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**Total Phenols:**

**(C) Aluminum Die Cast Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0074 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.00180208 lbs/day**

**Aluminum Die Cast Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0026 lbs/M-lbs)\*(0.24532 M-lbs/day)

Mass Limit= **.000633163 lbs/day**

**(D) Aluminum Dust Collection Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.258 lbs/M-lbs)\*(0.24352 M-lbs/day)

Mass Limit= **0.062829292 lbs/day**

**Aluminum Dust Collection Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.09 lbs/M-lbs)\*(0.24532 M-lbs/day)

Mass Limit= **.021917195 lbs/day**

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

**Combined Mass Limit:**

Combined mass limits were determined by summing the Aluminum Die cast, Dust collection mass limits for Max 1-Day and Max Monthly Average.

Combined Mass Limit of Max 1-Day= **0.064631372**

Combined Mass Limit of Max Monthly= **0.022550358**

**Concentration Limits**

**Total Phenol Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.064631372 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 0.819342398 \text{ mg/l}$$

**Total Phenols Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.022550358 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 0.285874552 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

**Total Phenols Max 1-Day**

$$C_T = \frac{(0.819342398 \text{ mg/l} * 0.00946)}{0.00946}$$

$$\frac{0.00946 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.00946 \text{ Mgalpd}}$$

$$C_T = 0.72 \text{ mg/l}$$

**ZINC Max Monthly Average**

$$C_T = \frac{(0.285874552 \text{ mg/l} * 0.00946 \text{ Mgalpd})}{0.00946}$$

$$\frac{0.00946 \text{ Mgalpd} * .0011 \text{ Mgalpd}}{0.00946 \text{ Mgalpd}}$$

$$C_T = .25 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.



**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**TTO'S:**

**(B) Aluminum Casting Quench Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.0029 lbs/M-lbs) \* (0.24352 M-lbs/day)

**Mass Limit = 0.007062207 lbs/day**

**Aluminum Casting Quench Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.0095 lbs/M-lbs) \* (0.24352 M-lbs/day)

**Mass Limit = 0.002313482 lbs/day**

**(C) Aluminum Die Cast Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0308 lbs/M-lbs)\*(0.24352 M-lbs/day)

**Mass Limit= 0.007500551 lbs/day**

**Aluminum Die Cast Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0100 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= .002435244 lbs/day**

**(D) Aluminum Dust Collection Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.613 lbs/M-lbs)\*(0.24352 M-lbs/day)

**Mass Limit= 0.14928045 lbs/day**

**Aluminum Dust Collection Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.2 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= .048704877 lbs/day**

**(H) Mold Cooling Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.9350 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= 0.227695302 lbs/day**

**Mold Cooling Mass Limits Max Monthly Average:**

Attachment A

Mass Limit = pollutant regulation\* average production

Mass limit = (0.3040 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= .074031414 lbs/day**

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

Combined Mass Limit:

Combined mass limits were determined by summing the Aluminum Casting quench, Die cast, Dust collection mass and Mold Cooling mass limits for Max 1-Day and Max Monthly Average.

Combined Mass Limit of Max 1-Day= **0.39153851**

Combined Mass Limit of Max Monthly=**0.127485017**

**Concentration Limits**

**TTO'S Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.39153851 \text{ lb/day})}{(0.00946 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 4.963597242 \text{ mg/l}$$

**TTO'S Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(0.127485017 \text{ lb/day})}{(0.00946 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 1.61614825 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

#### TTO'S Max 1-Day

$$C_T = \frac{(4.963597242 \text{ mg/l} * 0.00946)}{0.00946}$$

$$\frac{0.00946 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.00946 \text{ Mgalpd}}$$

$$C_T = 4.39 \text{ mg/l}$$

#### TTO'S Max Monthly Average

$$C_T = \frac{(1.61614825 \text{ mg/l} * 0.00946 \text{ Mgalpd})}{0.00946}$$

$$\frac{0.00946 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.00946 \text{ Mgalpd}}$$

$$C_T = 1.43 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.

**Pace Industries Calculations  
Permit 005-15**

**MASS LIMITS:**

**OIL & GREASE:**

**(B) Aluminum Casting Quench Mass Limits Max 1-Day**

Mass Limit = Pollutant Regulation\* average production

Mass Limit = (0.363 lbs/M-lbs) \* (0.24352 M-lbs/day)

**Mass Limit = 0.088399353 lbs/day**

**Aluminum Casting Quench Max Monthly Average**

Mass Limit = Pollutant Regulation \* average production

Mass Limit = (0.121 lbs/M-lbs) \* (0.24352 M-lbs/day)

**Mass Limit = 0.029466451 lbs/day**

**(C) Aluminum Die Cast Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.2590 lbs/M-lbs)\*(0.24352 M-lbs/day)

**Mass Limit= 0.063072816 lbs/day**

**Aluminum Die Cast Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (0.0864 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= .021040507 lbs/day**

**(D) Aluminum Dust Collection Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (9.01 lbs/M-lbs)\*(0.24352 M-lbs/day)

**Mass Limit= 2.194154731 lbs/day**

**Aluminum Dust Collection Mass Limits Max Monthly Average:**

Mass Limit = pollutant regulation\* average production

Mass limit = (3 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= 0.730573162 lbs/day**

**(H) Mold Cooling Mass Limits Max 1- Day:**

Mass Limit = pollutant regulation\* average production

Mass limit = (11.60 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= 2.824882895 lbs/day**

**Mold Cooling Mass Limits Max Monthly Average:**

Attachment A

Mass Limit = pollutant regulation\* average production

Mass limit = (3.860 lbs/M-lbs)\*(0.24532 M-lbs/day)

**Mass Limit= .940004136 lbs/day**

Note: Production information was compiled from 2017 Annual data that was provided by Pace Industries. See Table 3 for these values.

Note: Pollutant regulations can be found in Table 1.

Note: Daily Mass Limit Calculations were Calculated using 40 CFR 403.6 (C) (3).

Combined Mass Limit:

Combined mass limits were determined by summing the Aluminum Casting quench, Die cast, Dust collection mass and Mold Cooling mass limits for Max 1-Day and Max Monthly Average.

Combined Mass Limit of Max 1-Day= **5.170509795**

Combined Mass Limit of Max Monthly=**1.721084256**

**Concentration Limits**

**OIL & GREASE Concentration Limit Max 1-Day**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(5.170509795 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 65.54739187 \text{ mg/l}$$

**OIL & GREASE Concentration Limit Max Monthly Average**

$$\text{Concentration} = \frac{(\text{mass limit})}{(\text{total flow} * 8.34)}$$

$$\text{Concentration} = \frac{(1.721084256 \text{ lb/day})}{(0.009458 \text{ Mgalpd} * 8.34)}$$

$$\text{Concentration} = 21.81846445 \text{ mg/l}$$

**Combined Waste Stream Formula from 40 CFR 403.6 (e) (1) (i):**

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

Where:

$C_T$  = Alternate Combined Limit by the combined waste stream formula

$C_i$  = The Categorical Pretreatment Standard concentration limit for a pollutant regulated stream

$F_i$  = The average daily flow (30 days) of stream; to the extent that it is regulated for such pollutant

$F_T$  = The total flow at Monitoring point for which alternate concentration is calculated

$F_D$  = Total flow of the dilution stream

#### **OIL & GREASE Max 1-Day**

$$C_T = \frac{(65.54739187 \text{ mg/l} * 0.009458)}{0.009458}$$

$$\frac{0.009458 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.009458 \text{ Mgalpd}}$$

$$C_T = 57.92 \text{ mg/l}$$

#### **OIL & GREASE Max Monthly Average**

$$C_T = \frac{(21.81846445 \text{ mg/l} * 0.009458 \text{ Mgalpd})}{0.009458}$$

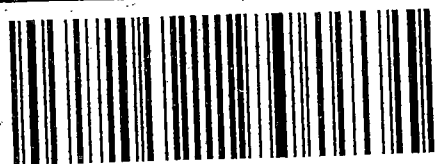
$$\frac{0.009458 \text{ Mgalpd} * 0.0011 \text{ Mgalpd}}{0.009458 \text{ Mgalpd}}$$

$$C_T = 19.28 \text{ mg/l}$$

Note: Combined waste stream numbers can be found in Tables 4, 8, and 9.

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