April 18, 2019

Mathew Sam
Detroit Public Schools
1601 Farnsworth
Detroit, Michigan 48202

SUBMITTED VIA EMAIL TO:  mathew.sam@detroitk12.org

SUBJECT:   Drinking Water Filtration Installation Screening Report
Mary McLeod Bethune Elementary/Middle School
8145 Puritan Street
Detroit, Michigan

Dear Mr. Sam:

ATC Group Services, LLC (ATC), is pleased to submit this Drinking Water Filtration Installation Screening Report for the subject school. The drinking water samples collected from the school were submitted to Pace Analytical Services, LLC, for Michigan Department of Environmental Quality drinking water certified lead analysis.

SCOPE OF WORK

At the request of the Detroit Public Schools (DPS), ATC collected water samples from drinking water fixtures with recently installed drinking water filtration systems, to assess copper and lead concentrations in the filtered drinking water at the subject school. Primary filtered water samples were collected after the fixtures/water remained inactive for eight to eighteen hours. The fixtures' descriptions and locations are provided in the Fixture Inventory forms (Attachment A), and fixture inventory photos, are provided in the Fixture Inventory Photo Log (Attachment B).

The drinking water samples were collected in sample containers, provided by Pace Analytical Services, LLC. Each sample container was labeled utilizing a unique coding system that identified: the type of drinking outlet sampled as well as the location.

The samples were transported under chain of custody to Pace Analytical Services, LLC, located at 5560 Corporate Exchange Ct. SE Grand Rapids, MI for MDEQ drinking water certified lead and copper analysis, using analytical method EPA 200.8 rev 5.4.
FINDINGS

Analytical results indicate that none of the samples analyzed were above the EPA Action Level (AL) of 15 micrograms per liter (ug/L) for lead, or the EPA AL of 1300 micrograms per liter (ug/L) for copper. The table below summarizes the analytical results for the samples submitted. The laboratory analytical reports and chain of custody are provided in Attachment C.

Table 1 – Water Testing Results (04/16/2019)

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Location</th>
<th>Description</th>
<th>Total Lead (ug/l)</th>
<th>Total Copper (ug/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-WC-across(gym)-1</td>
<td>Hall close to door exist #3</td>
<td>Water Cooler</td>
<td>ND</td>
<td>21 ug/L</td>
</tr>
<tr>
<td>1-WC-across(lunch room)-2</td>
<td>Hall by door exist #9</td>
<td>Water Cooler</td>
<td>3 ug/L</td>
<td>5.5 ug/L</td>
</tr>
<tr>
<td>1-WC-across(114)-3</td>
<td>Hall by door exist #10</td>
<td>Water Cooler</td>
<td>ND</td>
<td>19 ug/L</td>
</tr>
<tr>
<td>1-WC-across(111)-4</td>
<td>Hall by door exist #2</td>
<td>Water Cooler</td>
<td>ND</td>
<td>6.6 ug/L</td>
</tr>
<tr>
<td>2-WC-across(219)-5</td>
<td>Hall by stairs going to down to exist door #2</td>
<td>Water Cooler</td>
<td>ND</td>
<td>26 ug/L</td>
</tr>
<tr>
<td>2-WC-across(232A)-6</td>
<td>Hall by stairs going down</td>
<td>Water Cooler</td>
<td>ND</td>
<td>13 ug/L</td>
</tr>
</tbody>
</table>

Key: NA - Not Analyzed

ug/L - micrograms per liter /parts per billion (ppb)

RECOMMENDATIONS

Based on the analytical results, water samples collected from drinking water fixtures with recently installed water filtration systems, were below the EPA AL for lead and copper. The water filtration systems should be maintained per manufacturer instructions.

LIMITATIONS

The sampling and analysis completed was a preliminary screening for lead and copper only, to assess lead and copper concentrations (ug/L) at drinking water filtration systems, recently installed within the subject school. If lead or copper concentrations were identified above their respective AL at any of the drinking water fixtures tested, further review of the drinking water
plumbing system, fixtures affected, and testing may be completed to assess the source of the elevated levels of lead and/or copper, as well as, any other response actions deemed necessary by DPS.

Future drinking water evaluation and sampling in accordance with the recommendations may be predicated on applicable guidelines by the MDEQ or EPA and will be determined prior to developing a sampling plan for the school.

Sincerely,

ATC Group Services, LLC

Martin K. Gamble
Senior Project Manager

Robert C. Smith
Building Science Department Manager

Attachments

Attachment A: Fixture Inventory Locations Map/Form
Attachment B: Fixture Inventory Photo Log
Attachment C: Laboratory Analytical Report
Attachment A: Fixture Inventory Locations Map/Form
<table>
<thead>
<tr>
<th>Fixture Identification</th>
<th>Fixture Location</th>
<th>Fixture Description</th>
<th>Photo #</th>
</tr>
</thead>
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<td>Water Cooler</td>
<td>1</td>
</tr>
<tr>
<td>1-WC-across(lunch room)-2</td>
<td>Hall by door exist #9</td>
<td>Water Cooler</td>
<td>2</td>
</tr>
<tr>
<td>1-WC-across(114)-3</td>
<td>Hall by door exist #10</td>
<td>Water Cooler</td>
<td>3</td>
</tr>
<tr>
<td>1-WC-across(111)-4</td>
<td>Hall by door exist #2</td>
<td>Water Cooler</td>
<td>4</td>
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<tr>
<td>2-WC-across(219)-5</td>
<td>Hall by stairs going to down to exist door #2</td>
<td>Water Cooler</td>
<td>5</td>
</tr>
<tr>
<td>2-WC-across(232A)-6</td>
<td>Hall by stairs going down</td>
<td>Water Cooler</td>
<td>6</td>
</tr>
</tbody>
</table>
Attachment B: Fixture Inventory Photo Log
Drinking Fountain Installation
Mary McLeod Bethune Elementary/Middle School
Detroit, Michigan

Photo 1: Water cooler, located on the 1st floor, hall close to door exist #3

Photo 2: Water cooler, located on the 1st floor, hall by door exist #9

Photo 3: Water cooler, located on the 1st floor, hall by door exist #10

Photo 4: Water cooler, located on the 1st floor, hall by door exist #2

Photo 5: Water cooler, located on the 2nd floor, hall by stairs going to down to exist door #2

Photo 6: Water cooler, located on the 2nd floor, hall by stairs goingdown
Attachment C: Laboratory Analytical Report
April 16, 2019

Robert Smith
ATC Group Services
46555 Humboldt
Suite 100
Novi, MI 48377

RE: Project: Bethune
Pace Project No.: 50221164

Dear Robert Smith:

Enclosed are the analytical results for sample(s) received by the laboratory on April 02, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Hall
brian.hall@pacelabs.com
(616)975-4500
Project Manager

Enclosures

cc: AP c/o Abigail Jardiine, ATC Group Services
    Martin Gamble, ATC Group Services LLC
    Michael Hauswirth, ATC Group Services
CERTIFICATIONS

Project: Bethune
Pace Project No.: 50221164

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN  46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #: E-10177
Kentucky UST Certification #: 80226
Kentucky WW Certification #: 98019
Michigan Department of Environmental Quality, Laboratory #9050

Ohio VAP Certification #: CL0065
Oklahoma Certification #: 2018-101
Texas Certification #: T104704355
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-16-00257

REPORT OF LABORATORY ANALYSIS
This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.
## SAMPLE SUMMARY

**Project:** Bethune  
**Pace Project No.:** 50221164

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<th>Sample ID</th>
<th>Matrix</th>
<th>Date Collected</th>
<th>Date Received</th>
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<tbody>
<tr>
<td>50221164001</td>
<td>1-WC-across(gym)-1</td>
<td>Drinking Water</td>
<td>03/29/19 12:00</td>
<td>04/02/19 18:10</td>
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<tr>
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<td>1-WC-across(lunch room)-2</td>
<td>Drinking Water</td>
<td>03/29/19 12:04</td>
<td>04/02/19 18:10</td>
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<tr>
<td>50221164003</td>
<td>1-WC-across(114)-3</td>
<td>Drinking Water</td>
<td>03/29/19 12:09</td>
<td>04/02/19 18:10</td>
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<tr>
<td>50221164004</td>
<td>1-WC-across(111)-4</td>
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<td>50221164005</td>
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<td>Drinking Water</td>
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<td>04/02/19 18:10</td>
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<tr>
<td>50221164006</td>
<td>1-WC-across(232A)-6</td>
<td>Drinking Water</td>
<td>03/29/19 12:24</td>
<td>04/02/19 18:10</td>
</tr>
</tbody>
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**REPORT OF LABORATORY ANALYSIS**  
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## SAMPLE ANALYTE COUNT

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<td>EPA 200.8</td>
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<td>EPA 200.8</td>
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<tr>
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<td>1-WC-across(232A)-6</td>
<td>EPA 200.8</td>
<td>DMT</td>
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**ANALYTICAL RESULTS**

**Sample:** 1-WC-across(gym)-1  
**Lab ID:** 50221164001  
**Collected:** 03/29/19 12:00  
**Received:** 04/02/19 18:10  
**Matrix:** Drinking Water

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<th>Report Limit</th>
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<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>0.021</td>
<td>mg/L</td>
<td>0.0010</td>
<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 08:25</td>
<td>7440-50-8</td>
<td></td>
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<tr>
<td>Lead</td>
<td>ND</td>
<td>mg/L</td>
<td>0.0010</td>
<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 08:25</td>
<td>7439-92-1</td>
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</tbody>
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*Analytical Method: EPA 200.8  Preparation Method: EPA 200.8*

**REPORT OF LABORATORY ANALYSIS**

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## ANALYTICAL RESULTS

Project: Bethune  
Pace Project No.: 50221164

Sample: 1-WC-across(lunch room)-2  
Lab ID: 50221164002  
Collected: 03/29/19 12:04  
Received: 04/02/19 18:10  
Matrix: Drinking Water

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<td>04/13/19 08:48</td>
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<td>Lead</td>
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<td>mg/L</td>
<td>0.0010</td>
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<td>04/13/19 08:48</td>
<td>7439-92-1</td>
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# Analytical Results

**Project:** Bethune  
**Pace Project No.:** 50221164

**Sample:** 1-WC-across(114)-3  
**Lab ID:** 50221164003  
**Collected:** 03/29/19 12:09  
**Received:** 04/02/19 18:10  
**Matrix:** Drinking Water

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<th>Report Limit</th>
<th>Reg. Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
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<tbody>
<tr>
<td><strong>200.8 MET ICPMS</strong></td>
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</tr>
<tr>
<td>Copper</td>
<td>0.019</td>
<td>mg/L</td>
<td>0.0010</td>
<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 08:53</td>
<td>7440-50-8</td>
<td></td>
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<tr>
<td>Lead</td>
<td>ND</td>
<td>mg/L</td>
<td>0.0010</td>
<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 08:53</td>
<td>7439-92-1</td>
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**Date:** 04/16/2019 12:28 PM

**REPORT OF LABORATORY ANALYSIS**

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## ANALYTICAL RESULTS

**Project:** Bethune  
**Pace Project No.:** 50221164

**Sample:** 1-WC-across(111)-4  
**Lab ID:** 50221164004  
**Collected:** 03/29/19 12:14  
**Received:** 04/02/19 18:10  
**Matrix:** Drinking Water

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
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<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
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</table>
| 200.8 MET ICPMS | Analytical Method: EPA 200.8  
Preparation Method: EPA 200.8 |
| Copper | 0.0066 mg/L | 0.0010 | 1 | 04/11/19 09:35 | 04/13/19 08:57 | 7440-50-8 |
| Lead | ND mg/L | 0.0010 | 1 | 04/11/19 09:35 | 04/13/19 08:57 | 7439-92-1 |

**REPORT OF LABORATORY ANALYSIS**

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Date: 04/16/2019 12:28 PM
## ANALYTICAL RESULTS

### Project: Bethune

**Pace Project No.:** 50221164

### Sample: 1-WC-across(219)-5

**Lab ID:** 50221164005  
**Collected:** 03/29/19 12:18  
**Received:** 04/02/19 18:10  
**Matrix:** Drinking Water

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<tr>
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<td>04/13/19 09:11</td>
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<tr>
<td>Lead</td>
<td>ND</td>
<td>mg/L</td>
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<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 09:11</td>
<td>7439-92-1</td>
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**Report of Laboratory Analysis**

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Date: 04/16/2019 12:28 PM

Pace Analytical Services, LLC
5560 Corporate Exchange Ct. SE
Grand Rapids, MI 49512
(616)975-4500

Page 9 of 15
## ANALYTICAL RESULTS

**Project:** Bethune  
**Pace Project No.:** 50221164  
**Sample:** 1-WC-across(232A)-6  
**Lab ID:** 50221164006  
**Collected:** 03/29/19 12:24  
**Received:** 04/02/19 18:10  
**Matrix:** Drinking Water

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<th>Report Limit</th>
<th>Reg. Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
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<td>04/11/19 09:35</td>
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<tr>
<td>Lead</td>
<td>ND</td>
<td>mg/L</td>
<td>0.0010</td>
<td>1</td>
<td>04/11/19 09:35</td>
<td>04/13/19 09:16</td>
<td>7439-92-1</td>
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**Analytical Method:** EPA 200.8  
**Preparation Method:** EPA 200.8

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**REPORT OF LABORATORY ANALYSIS**  
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Date: 04/16/2019 12:28 PM
QUALITY CONTROL DATA

Project: Bethune
Pace Project No.: 50221164

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<th>QC Batch</th>
<th>Analysis Method</th>
<th>Analysis Description</th>
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<td>493932</td>
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Associated Lab Samples: 50221164001, 50221164002, 50221164003, 50221164004, 50221164005, 50221164006

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<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
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<tbody>
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<tr>
<td>Lead</td>
<td>mg/L</td>
<td>ND</td>
<td>0.0010</td>
<td>04/13/19 08:16</td>
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LABORATORY CONTROL SAMPLE: 2278961

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<th>LCS Result</th>
<th>LCS % Rec</th>
<th>Limits</th>
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<tr>
<td>Lead</td>
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<td>0.04</td>
<td>0.041</td>
<td>103</td>
<td>85-115</td>
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MATRiX SPIKE & MATRIX SPIKE DUPLICATE: 2278962 2278963

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<th>Spike Conc.</th>
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<th>MS % Rec</th>
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<td>92</td>
<td>93</td>
<td>70-130</td>
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<td>20</td>
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<tr>
<td>Lead</td>
<td>mg/L</td>
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<td>0.041</td>
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<td>102</td>
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MATRiX SPIKE SAMPLE: 2278964

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<th>Spike Conc.</th>
<th>MS Result</th>
<th>MS % Rec</th>
<th>Limits</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>mg/L</td>
<td>ND</td>
<td>0.04</td>
<td>0.039</td>
<td>95</td>
<td>70-130</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>mg/L</td>
<td>ND</td>
<td>0.04</td>
<td>0.041</td>
<td>104</td>
<td>70-130</td>
<td></td>
</tr>
</tbody>
</table>

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.
QUALIFIERS

Project: Bethune
Pace Project No.: 50221164

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration. Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.
## QUALITY CONTROL DATA CROSS REFERENCE TABLE

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>QC Batch Method</th>
<th>QC Batch</th>
<th>Analytical Method</th>
<th>Analytical Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>50221164001</td>
<td>1-WC-across(gym)-1</td>
<td>EPA 200.8</td>
<td>493932</td>
<td>EPA 200.8</td>
<td>494314</td>
</tr>
<tr>
<td>50221164002</td>
<td>1-WC-across(lunch room)-2</td>
<td>EPA 200.8</td>
<td>493932</td>
<td>EPA 200.8</td>
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<td>50221164003</td>
<td>1-WC-across(114)-3</td>
<td>EPA 200.8</td>
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<td>50221164004</td>
<td>1-WC-across(111)-4</td>
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<td>50221164005</td>
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</tr>
</tbody>
</table>
### SAMPLE ID

**One Character per box.**
(A-Z, 0-9, _)

Sample IDs must be unique.

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>MATRIX CODE</th>
<th>START DATE</th>
<th>END DATE</th>
<th>SAMPLE TEMP (C)</th>
<th>CONTAINERS</th>
<th>ANALYTIC TEST</th>
<th>SAMPLE ID</th>
<th>SAMPLER NAME AND SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DW</td>
<td>3/29/19</td>
<td>12:00</td>
<td>12:00</td>
<td>1</td>
<td>X</td>
<td>1-WC-acros(11C)-1</td>
<td>[Signature]</td>
</tr>
<tr>
<td>2</td>
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<td>12:04</td>
<td>1</td>
<td>X</td>
<td>1-WC-acros(lunch room)-2</td>
<td>[Signature]</td>
</tr>
<tr>
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<td>DW</td>
<td>3/29/19</td>
<td>12:09</td>
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<td>1</td>
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<tr>
<td>4</td>
<td>DW</td>
<td>3/29/19</td>
<td>12:14</td>
<td>12:14</td>
<td>1</td>
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</tr>
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<td>DW</td>
<td>3/29/19</td>
<td>12:18</td>
<td>12:18</td>
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<tr>
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<td>DW</td>
<td>3/29/19</td>
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<td>X</td>
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</tr>
</tbody>
</table>
**Sample Conditions Upon Receipt**

| Date: 4/2/19 | Evaluated by:  

| Client: OTC |  

| Profile ID: | Project Manager:  

| Sample Receiving Non Conformance Form Required: | Rush Turn Around Time Requested:  

| YES | NO | YES | NO  

| Page 1 Of 1 | Lab Notified of Rush or Short Holds: YES NO  

### Lab Sample Receipt Checklist:

| Samples Received Via: | FEDEX | UPS | CLIENT | PACE COURIER  

| Custody Seals Present and Intact: | YES | NO | NA  

| USDA Regulated Soils: | YES | NO | NA  

| Short Holds Present (< 72 Hours): | YES | NO | NA  

| Samples Received in Hold: | YES | NO | NA  

| Custody Signatures Present: | YES | NO | NA  

| Collector Signature Present: | YES | NO | NA  

| Samples Received On Ice: | YES | NO | NA  

| Type of Ice: WET BLUE DRY NONE |  

| Packing Material Used: | YES | NO | NA  

| IR Gun #: 202 402 Temp should be 0-6°C | Cooler Temp Upon Receipt: 12.9 °C  

| Temp Blank Received: | YES | NO | NA  

| Trip Blank Received: Type: HCL MeOH TSP OTHER | YES | NO | NA  

| Bottles Intact: | YES | NO | NA  

| Correct Bottles: | YES | NO | NA  

| Sufficient Volume: | YES | NO | NA  

| Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation Exceptions are VOA, coliform, TOC, O & G, HEM, DRO | YES | NO | NA  

| pH Strip Lot Number: |  

| VOA Headspace Acceptable (<6mm): | YES | NO | NA  

| Comments: |  

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F-GR-C-007-rev.00, 21Aug2018