



United States Environmental Protection Agency  
Office of Enforcement and Compliance Assurance  
**DMR-QA Study 42**

(This data is collected under the authority of Section 308 of the Clean Water Act.)

Johnson Co.

2022

## NPDES Permittee Data Report Form

Attention: Follow the instructions on the previous page to complete this form and submit data for evaluation.

**Due September 9, 2022**

NPDES Permit Number (State + 7-digit ID)

IN  P 0 0 0 6 2 7

Permit Extension

Permittee Name

Material Handling Exchange

Current Permittee Mailing Address

1001 Hurricane Road

City

Franlin

State

IN

Zip Code

46131

Phone Number

3172130178

Fax Number

E-Mail Address

hsstool@m-h-e.com

Optional: If WP Study was used, list PT Provider name(s):

Absolute Standards

Optional: IF WP Study was used, list WP Study Number(s):

For DMR-QA Study 42, conducted in 2022, the Permittee ensured that their laboratory(ies) performing the required analyses:

Received PT Samples

YES ☒ NO ☐

Submitted Complete and  
Accurate Data by July 15, 2022

YES ☒ NO ☐

Received a Graded Report by  
August 12, 2022

YES ☒ NO ☐

### Certification by Permit Holder or Authorized Representative

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. Each reported value was produced from a single analytical run using the analytical system that routinely performs these analyses to produce compliance monitoring data required under our National Pollutant Discharge Elimination System (NPDES) permit. Neither I nor any of my subordinates compared our results with results from independent analyses conducted by us or any other laboratory before we reported our results to the U.S. EPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Certifying Official

Jeremy Baughman

Title

Maintenance Manager

Signature

Date

04/05/2023

*Address, phone number and e-mail of certifying official are required if different from above.*

Address

1001 Hurricane Road

Phone Number

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**2022**

Permittee Name

Material Handling Exchange

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Permit Extension

**Identification of all CHEM, MICRO and WET laboratories who performed analyses for this permit**

Laboratory Name	Laboratory Address	U.S. EPA Lab Code	Lab Analysis Check box(es) that apply			Lab Type*	State-certified Lab**
			Chem	Micro	WET		
Water & Wastewater Labs	2779 Rockefeller Avenue Cleveland OH 44115	OH 0 1 1 2 7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	I <input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

\* Lab Types: C = Commercial; F = Federal; G = Local Government; I = Industrial; O = Other; S = State

\*\* See Footnote on page 5 (Frequently Asked Questions) for the current list of states with lab accreditation programs

*If you need additional space, please make a copy of this page for additional laboratories.*



## Chemistry/Microbiology Analyte Checklist

### DMR-QA Study 42

# 2022

Analyte Test	Test Required	Method Number Used (Optional)	Laboratory's Graded Result		Analyte determined by state-certified lab*
			Acceptable	Not Acceptable (Corrective Action Required)	
<b>Microbiology</b>					
E. coli, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Trace Metals</b>					
Aluminum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chromium, total	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Iron	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Manganese	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury (Low Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Selenium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Thallium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Demands</b>					
5-day BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-day Carbonaceous BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Minerals</b>					
Alkalinity, total (CaCO <sub>3</sub> )	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO <sub>3</sub> )	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Nutrients</b>					
Ammonia as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Misc. Analytes</b>					
Non-Filterable Residue (TSS)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low-Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Jeremy Baughman

Signature \_\_\_\_\_

Date \_\_\_\_\_

04/05/2023

\* See Footnote on page 5



# Whole Effluent Toxicity (WET) Analyte Checklist DMR-QA Study 42

# 2022

Analyte Number	Organism / Conditions	Endpoint	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab*
				Acceptable	Not Acceptable (Corrective Action Required)	
<b>Test Code 13 (refer to EPA Method 2000.0)</b>						
754	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 14 (refer to EPA Method 2000.0)</b>						
755	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 15 (refer to EPA Method 1000.0)</b>						
756	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
808	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
810	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 16 (refer to EPA Method 1000.0)</b>						
759	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
812	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
814	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 19 (refer to EPA Method 2002.0)</b>						
764	<i>Ceriodaphnia dubia</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 20 (refer to EPA Method 2002.0)</b>						
765	<i>Ceriodaphnia dubia</i> - 20% DMW 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 21 (refer to EPA Method 1002.0)</b>						
766	<i>Ceriodaphnia dubia</i> - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
767	<i>Ceriodaphnia dubia</i> - MHSF	IC25** REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
768	<i>Ceriodaphnia dubia</i> - MHSF	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 22 (refer to EPA Method 1002.0)</b>						
769	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
770	<i>Ceriodaphnia dubia</i> - 20% DMW	IC25** REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
771	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 32 (refer to EPA Method 2021.0)</b>						
788	<i>Daphnia magna</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 38 (refer to EPA Method 2021.0)</b>						
794	<i>Daphnia pulex</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 42 (refer to EPA Method 2007.0)</b>						
798	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 43 (refer to EPA Method 1007.0)</b>						
799	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
816	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
818	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 44 (refer to EPA Method 2006.0)</b>						
803	Inland silverside ( <i>Menidia beryllina</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 45 (refer to EPA Method 1006.0)</b>						
824	Inland silverside ( <i>Menidia beryllina</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
825	Inland silverside ( <i>Menidia beryllina</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
826	Inland silverside ( <i>Menidia beryllina</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 46 (refer to EPA Method 2004.0)</b>						
804	Sheepshead minnow ( <i>Cyprinodon variegatus</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 47 (refer to EPA Method 1004.0)</b>						
805	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
820	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
822	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Name Jeremy Baughman Signature \_\_\_\_\_ Date 04/05/2023

\* See Footnote on page 5

\*\* Preferred endpoint for DMR-QA performance test reporting

**Complete a separate checklist for EACH lab.**



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**2022**

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Received PT Samples

YES ☒ NO ☐

Submitted Complete and  
Accurate Data by July 15, 2022

YES ☒ NO ☐

Received a Graded Report by  
August 12, 2022

YES ☒ NO ☐

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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. Each reported value was produced from a single analytical run using the analytical system that routinely performs these analyses to produce compliance monitoring data required under our National Pollutant Discharge Elimination System (NPDES) permit. Neither I nor any of my subordinates compared our results with results from independent analyses conducted by us or any other laboratory before we reported our results to the U.S. EPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Certifying Official

Jeremy Baughman

Title

Maintenance Manager

Signature

Date

04/05/2023

*Address, phone number and e-mail of certifying official are required if different from above.*

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1001 Hurricane Road

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Material Handling Exchange	1001 Hurricane Road Franklin IN 46131	IN 0 1 8 6 8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
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Aluminum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Manganese	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5-day BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Alkalinity, total (CaCO <sub>3</sub> )	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Fluoride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Specific conductance (25°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Nutrients</b>					
Ammonia as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Misc. Analytes</b>					
Non-Filterable Residue (TSS)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Cyanide	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low-Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Name Jeremy Baughman

Signature \_\_\_\_\_

Date \_\_\_\_\_

04/05/2023

\* See Footnote on page 5



## Whole Effluent Toxicity (WET) Analyte Checklist

### DMR-QA Study 42

# 2022

Analyte Number	Organism / Conditions	Endpoint	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab*
				Acceptable	Not Acceptable (Corrective Action Required)	
<b>Test Code 13 (refer to EPA Method 2000.0)</b>						
754	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 14 (refer to EPA Method 2000.0)</b>						
755	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 15 (refer to EPA Method 1000.0)</b>						
756	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
808	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
810	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 16 (refer to EPA Method 1000.0)</b>						
759	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
812	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
814	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 19 (refer to EPA Method 2002.0)</b>						
764	<i>Ceriodaphnia dubia</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 20 (refer to EPA Method 2002.0)</b>						
765	<i>Ceriodaphnia dubia</i> - 20% DMW 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 21 (refer to EPA Method 1002.0)</b>						
766	<i>Ceriodaphnia dubia</i> - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
767	<i>Ceriodaphnia dubia</i> - MHSF	IC25** REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
768	<i>Ceriodaphnia dubia</i> - MHSF	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 22 (refer to EPA Method 1002.0)</b>						
769	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
770	<i>Ceriodaphnia dubia</i> - 20% DMW	IC25** REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
771	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 32 (refer to EPA Method 2021.0)</b>						
788	<i>Daphnia magna</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 38 (refer to EPA Method 2021.0)</b>						
794	<i>Daphnia pulex</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 42 (refer to EPA Method 2007.0)</b>						
798	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 43 (refer to EPA Method 1007.0)</b>						
799	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
816	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
818	Mysid ( <i>Americamysis bahia</i> , <i>Mysidopsis bahia</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 44 (refer to EPA Method 2006.0)</b>						
803	Inland silverside ( <i>Menidia beryllina</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 45 (refer to EPA Method 1006.0)</b>						
824	Inland silverside ( <i>Menidia beryllina</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
825	Inland silverside ( <i>Menidia beryllina</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
826	Inland silverside ( <i>Menidia beryllina</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 46 (refer to EPA Method 2004.0)</b>						
804	Sheepshead minnow ( <i>Cyprinodon variegatus</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 47 (refer to EPA Method 1004.0)</b>						
805	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
820	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	IC25** (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
822	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

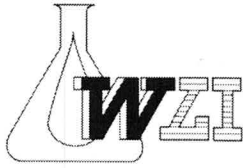
 Name Jeremy Baughman Signature \_\_\_\_\_ Date 04/05/2023

\* See Footnote on page 5

\*\* Preferred endpoint for DMR-QA performance test reporting

**Complete a separate checklist for EACH lab.**





## INTRODUCTION

Our laboratory has been providing reliable analytical services for over thirty years, having first incorporated as Water Management in 1973. In 1992 we separately incorporated the laboratory as Water & Wastewater Laboratories, Inc.

Through the years we have provided analytical services for many clients including: municipal agencies, NPDES permit holders, metal finishing industries, engineering firms, chemical suppliers, and consulting firms. From working with our clients we have gained a strong background in various facets of the environmental industry. We are able to help our clients understand the analytical results and to decipher problem areas in their wastewater treatment systems. For certain clients' needs we have developed specialized test procedures and analytical modifications for their unique problems.

We operate a full service laboratory capable of analyzing a wide range of parameters. Our staff has full instrumentational capabilities to provide quality analytical data. We follow methods set forth in SW846, EPA Methods for Water & Wastewater, Standard Methods for the Examination of Water & Wastewater, and ASTM analytical methods. We also incorporate those methods provided by our clients, or designed for our clients for specific in-process utilization and quality control.

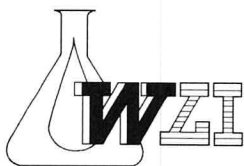
We provide field service for the many different needs of our clients. Sampling services include automatic composite and automatic sequential sampling. We can provide a range of field services for our clients who may need surface water analyzed for bacteria or a municipality needing automatic sampling for a citywide survey.

We are a full service environmental company that works closely with our clients and their individual requirements.

**Water & Wastewater Laboratories, Inc.**  
2779 Rockefeller Avenue  
Cleveland, Ohio 44115

Phone: 216-696-0280  
Fax: 216-696-6831

E-Mail: [john@wwmiwwli.com](mailto:john@wwmiwwli.com)  
Website: [www.wwmiwwli.com](http://www.wwmiwwli.com)



## Water & Wastewater Laboratories, Inc.

### Qualifications

#### Quality Assurance

Water and Wastewater Laboratories, Inc. (WWLI) management and personnel are committed to producing accurate analytical results, and have developed a functioning quality assurance program to verify the data is accurate. WWLI provides a wide range of analytical services, and we have incorporated all services into our quality assurance program.

The quality assurance program is organized to incorporate a progression of steps that will culminate in the development of a reliable analytical report. Each step is documented in a manner which provides for sample tracking, continuous evaluation, and the review of the quality control as it pertains to the performance of the laboratory and individual sample analysis.

The responsibility of Quality Assurance falls on management and staff alike. From the receipt of a sample to generation of the final report, all personnel take a responsibility for the quality of our service.

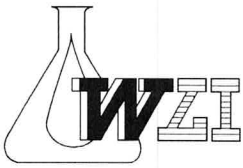
#### Experience

Over the years since our start in 1991 our laboratory has gained invaluable and extensive experience through servicing the analytical needs of the following industrial, municipal, and commercial accounts:

##### **Electroplating and Metal Finishing:**

This industry represents our largest client base. WWLI specializes in servicing the analytical needs of this important industrial sector. Cleveland alone has approximately 150 such firms. Over the years we have serviced literally hundreds of these customers in northern Ohio. In addition to providing routine effluent wastewater analyses for our metal finishing clients, our experience and knowledge of their processes and treatment system unit operations help assist in their ability to comply by providing insight and process trouble shooting assistance when minor problems become apparent.

Field technical assistance is always prioritized should a facility visit become necessary to track or correct operational troubles.



## Water & Wastewater Laboratories, Inc.

### **Food Processing:**

The nations first biological nitrification system for a slaughterhouse and meat packaging facility was developed and implemented from our laboratory in the late 70's.

Cheese manufacturing firms and their wastewater are another specialty of our laboratory, having serviced the largest independent cheese maker in the State in Brewster, Ohio, and one of the largest independent cheese manufacturers in the Country. In addition to providing standard NPDES testing, we are also called upon by such firms to diagnose and correct biological process problems when they develop.

### **Consulting and Engineering Firms:**

Although WWLI is owned by a firm which provides wastewater treatment system engineering and design services, a major client base is Consulting Engineering and related environmental firms. Such firms' clients are held in the strictest of confidence.

WWLI provides a full line of analytical services for this field including basic parameter testing and field sampling services. Additionally, in our fields of expertise many firms rely on us for process design through bench scale jar test services or completion of much larger pilot plant studies.

WWLI has developed and continues to service, engineering client firms from all over the country.

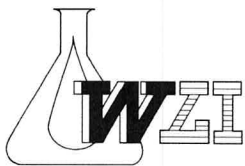
### **Municipal Agencies:**

Over the years, WWLI has serviced many municipal and other governmental agencies in their analytical and related project needs.

Service work has included sampling and analytical work at industrial categorical concerns for baseline monitoring and development of local pretreatment programs, continuing analytical monitoring to insure program-compliance, facilities-plan sampling and analyses for the expansion of local sewerage systems, and pilot plant studies for the upgrade and modification of drinking water filtration plants.

### **Process and Materials Testing:**

This is a growing area at our facility. We have been developing good rapport and gaining valuable experience with industries needing production analysis. Our Laboratory routinely analyzes production compounds and chemicals for quality control monitoring and investigative determinations. Among this group of clients are plating facilities, salt processing facilities, metal recovery, and production chemical facilities. We provide "Certificates of Analysis", and "Composition Reports".



## Water & Wastewater Laboratories, Inc.

### **Data Validation:**

Data Validation is a process by which quality control and raw analytical data are evaluated prior to submittal of a report to a control authority. This validation process can be used for all analytical reporting but typically it is used in critical situations. We supply this service through an independent company, Purves Environmental.

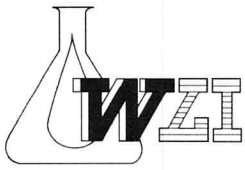
Purves Environmental has performed data validation since 1987 when the Super Fund Program began. Since that time the data validation process has changed and been refined. Today the method-based validation is now transforming into performance based validation. Purves Environmental has been on the leading edge of these changes. They provide validation required by programs as AFCEE and Army Corps.

### **Our Facility:**

Located between Downtown Cleveland, Ohio and the Industrial Flats our 9500 sq. ft. facility holds our Laboratory and offices. Over the years our staff has become experienced in standard analytical methods and developed methods to diversify into new areas. We have grown and have become experienced in many facets of analytical services.

### **Overview of our Laboratory**

- **Organic Analysis-** GC, GC-MS department
- **Metals Analysis-** AA, ICP department
- **Inorganic Analysis** including:
  - Full wet chemistry services utilizing: ultraviolet, visible, and infrared spectroscopy; total organic carbon on liquids and solids, Ion Chromatography, pH, ORP, selective ion, conductivity, turbidity and dissolved oxygen meters
- **RCRA characteristics:**
  - The equipment to perform the RCRA characteristics: reactivity, corrosivity, ignitability, and toxicity
- **Bacteriological Analysis**
- **Our Staff**
  - With combined years of experience amounting to over a century and a-half.



## Water & Wastewater Laboratories, Inc.

### **Certifications:**

#### **NPDES Quality Assurance Certification**

- As part of our analysis for direct discharges we partake in and comply with the annual DMR-QA Studies.
- Our EPA Laboratory I.D. Code is: OH01127

#### **Ohio Water Environment Association Certification for Analysts**

- Our Laboratory personnel are certified wastewater analysts.
  - ❖ Laboratory Technicians are Level I or higher
  - ❖ Chemists are Level I or higher
- Our Laboratory Manager is a Class IV Analyst:
  - ❖ Certification Serial# 4-93-14
- Our Quality Assurance Officer is a Class I Analyst:
  - ❖ Certification Serial # 1-18-18

**Water & Wastewater Laboratories, Inc.**

Laboratory Proficiency Test for 2022-2023

USEPA Lab Code: OH01127

NSI Lab Code: N00159

All Analytes were: ACCEPTABLE (100% PASS)

Results attached.

**CWA - Non-Potable Water**  
**FINAL Performance Evaluation Report**  
**NSI Laboratory Proficiency Testing Program**  
**Study WP-281 - Shipped: 03/01/2022 - Closed: 04/14/2022 - Reports Printed On: 04/29/2022**  
**Participant USEPA Labcode: OH01127**

Study Designed and Coordinated by:  
NSI Lab Solutions  
7212 ACC Blvd., Raleigh, NC 27617  
ANAB Certificate#: AP-1693-1  
1-800-234-7837

**This evaluation report is being submitted to:**  
Water & Wastewater Laboratories, Inc.  
Attention: John Ondo  
2779 Rockefeller Avenue  
Cleveland, OH, 44115

**LabCode and Accreditation Information:**  
**Send Results to:** Lab Only  
**Reports to:**

**Participant Information**  
**NSI Lab Code:** N00159

This report was submitted by John Ondo, Laboratory Manager  
Water & Wastewater Laboratories, Inc.  
2779 Rockefeller Avenue  
Cleveland, OH, 44115  
216-696-0280

Please contact Mark Hammersla at NSI Lab Solutions if you have any questions about this report.  
(800) 234-7837 - mark.hammersla@nsilabsolutions.com

This PT report may contain data not covered under ANAB Accreditation. Such data is noted by an asterisk.

**PEI-029 Oil and Grease** - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1803 Oil and Grease	n/a	n/a	epa 1664A	29.2	29.4	31.5	mg/L	4.06	17.8 to 40.6	0.0493	ACCEPT.	3/24/22	RK
1935 Total Recoverable Petroleum Hydrocarbons(TRPH)	-- Not Reported --												

**PEI-031 Amenable and Total Cyanide** - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1645 Total Cyanide	n/a	n/a	SM 4500CN C	0.763	0.764	0.741	mg/L	0.122	0.482 to 1.00	0.0082	ACCEPT.	3/17/22	JO
1510 Available Cyanide	-- Not Reported --		E										

**PEI-034-1 Trace Metals** - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1000 Aluminum	n/a	n/a	EPA 200.7	3670	3729	3900	ug/L	289	3260 to 4430	0.204	ACCEPT.	3/18/22	RK
1005 Antimony	n/a	n/a	EPA 200.7	506	470	500	ug/L	37.7	403 to 581	0.955	ACCEPT.	3/18/22	RK
1010 Arsenic	n/a	n/a	EPA 200.7	848	800	800	ug/L	35.0	679 to 911	1.37	ACCEPT.	3/18/22	RK
1015 Barium	n/a	n/a	EPA 200.7	343	339	350	ug/L	14.3	298 to 403	0.280	ACCEPT.	3/18/22	RK
1020 Beryllium	n/a	n/a	EPA 200.7	287	283	290	ug/L	9.36	247 to 334	0.427	ACCEPT.	3/18/22	RK
1030 Cadmium	n/a	n/a	EPA 200.7	173	165	164	ug/L	10.1	139 to 189	0.792	ACCEPT.	3/18/22	RK
1040 Chromium	n/a	n/a	EPA 200.7	226	229	225	ug/L	10.6	191 to 259	0.283	ACCEPT.	3/18/22	RK
1050 Cobalt	n/a	n/a	EPA 200.7	337	328	330	ug/L	18.3	281 to 380	0.492	ACCEPT.	3/18/22	RK
1055 Copper	n/a	n/a	EPA 200.7	372	373	375	ug/L	25.8	319 to 431	0.0388	ACCEPT.	3/18/22	RK
1070 Iron	n/a	n/a	EPA 200.7	1359	1335	1340	ug/L	71.7	1140 to 1540	0.335	ACCEPT.	3/18/22	RK
1075 Lead	n/a	n/a	EPA 200.7	558	576	580	ug/L	33.1	493 to 667	0.544	ACCEPT.	3/18/22	RK
1090 Manganese	n/a	n/a	EPA 200.7	1380	1432	1400	ug/L	106	1190 to 1610	0.491	ACCEPT.	3/18/22	RK
1100 Molybdenum	n/a	n/a	EPA 200.7	264	268	275	ug/L	8.14	235 to 312	0.491	ACCEPT.	3/18/22	RK
1105 Nickel	n/a	n/a	EPA 200.7	1209	1249	1220	ug/L	84.6	1080 to 1370	0.473	ACCEPT.	3/18/22	RK
1140 Selenium	n/a	n/a	EPA 200.7	123	124	125	ug/L	8.18	106 to 144	0.122	ACCEPT.	3/18/22	RK
1150 Silver	n/a	n/a	EPA 200.7	912	908	950	ug/L	64.1	808 to 1090	0.0624	ACCEPT.	3/18/22	RK
1165 Thallium	n/a	n/a	EPA 200.7	727	705	720	ug/L	37.9	598 to 830	0.580	ACCEPT.	3/18/22	RK
1190 Zinc	n/a	n/a	EPA 200.7	1320	1303	1300	ug/L	78.1	1110 to 1500	0.218	ACCEPT.	3/18/22	RK
1185 Vanadium	-- Not Reported --												
1160 Strontium	-- Not Reported --												
1080 Lithium	-- Not Reported --												

**PEI-087 Mercury** - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1095 Mercury	n/a	n/a	SM 3112B	21.7	21.7	21.9	ug/L	4.73	15.3 to 28.5	0	ACCEPT.	3/24/22	JO

**PEI-095 Hexavalent Chromium** - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name



1045	Chromium (VI)	n/a	n/a	SM 3500CR B	689	700	693	ug/L	35.2	583 to 794	0.313	ACCEPT.	3/9/22	JO
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**PEI-138 Simple Nutrients - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281**

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1515 Ammonia as N	n/a	n/a	SM 4500NHE F	10.2	10.3	10.0	mg/L	1.20	7.96 to 12.0	0.0833	ACCEPT.	3/23/22	JO
1820 Nitrate plus Nitrite as N	n/a	n/a	SM 4110B	23.0	22.3	23.8	mg/L	5.13	19.9 to 27.5	0.136	ACCEPT.	3/23/22	JO
1870 Orthophosphate as P	n/a	n/a	SM 4110B	5.39	5.61	5.35	mg/L	1.41	4.55 to 6.15	0.156	ACCEPT.	3/23/22	JO
1810 Nitrate as N	-- Not Reported --												

**PEI-139 Complex Nutrients - Water & Wastewater Laboratories, Inc. - NSI Lab Solutions/WP-281**

TNI Analyte	TNI Method Code	TNI Tech. Code	TNI Method Description	Reported Value	Study Mean	Assigned Value	Units	Standard Deviation	Acceptance Limits	Z-Score	Evaluation	Analysis Date	Analyst's Name
1795 Total Kjeldahl Nitrogen	n/a	n/a	SM 4500NORG B	8.44	8.61	8.44	mg/L	1.56	6.12 to 10.7	0.109	ACCEPT.	3/30/22	JO
1910 Total Phosphorus	n/a	n/a	SM 4500P B5 NH3C E	4.73	4.34	4.54	mg/L	0.783	3.75 to 5.28	0.498	ACCEPT.	3/30/22	JO

**Assigned Values**

All assigned values are established in a manner compliant with the current TNI FOT for Non-Potable Water. With the exception of TDS and Specific Conductance assigned values are equal to the analytically verified gravimetric true value of the PT sample. For TDS and Specific Conductance, the assigned value is set at the robust study mean.

**Accuracy/Traceability/Uncertainty**

All assigned values are analytically verified for formulation accuracy prior to shipment. A total of 10 randomly chosen samples are taken from the production run and analyzed against NIST SRMs or CRMs. Traceability to SI is established through microbalance calibration with NIST traceable test masses. The expanded uncertainty at 95% CI with K=2 of each assigned value is available upon request and is typically <0.50%.

**Batch Homogeneity**

Each individual PT sample batch is thoroughly mixed in production and guaranteed to be homogeneous. Homogeneity is verified analytically according to in-house SOP.

**Stability**

Each analyte has been verified stable through the end of the PT study by either long term monitoring or study dosing stability testing.

**Acceptance Limits**

Acceptance limits are set according to current TNI limits. Where no limits are set by TNI, limits are set to  $\pm 3$  standard deviations around the study mean after outlier correction.

**Accredited Analytes**

All analytes are included under our ISO 17043/TNI scope of accreditation (Certificate #: AP-1693-1) unless otherwise noted with an asterisk (\*).

**Z-Scores**

Z-Scores have been added to our reports for informational purposes. The z-score is an internationally recognized PT grading criterion where any z-score <3 is considered an acceptable evaluation.  $z = (X - \mu)/\sigma$  after outlier rejection where X is the reported value,  $\mu$  is the study mean and  $\sigma$  is the study standard deviation. It should be noted that the overall evaluations continue to be determined in a manner conforming with the current TNI criteria.

**PT Study Summary**

To view a summary of the PT study results, please see Study Summary Report available in our PT Datalink at [www.nslabsolutions.com](http://www.nslabsolutions.com).

\* The study mean and standard deviation are presented after outlier correction and are based upon pooled reported results without consideration for analytical technology.

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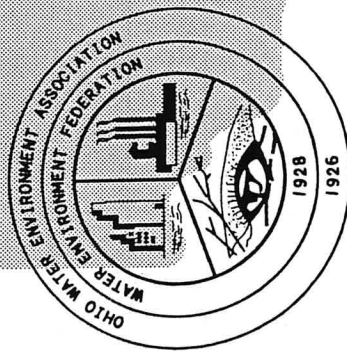
Should you disagree with any element of this PT report, please submit your complaint to [nsi@nsilabsolutions.com](mailto:nsi@nsilabsolutions.com). Include the study number, your contact information, NSI Labcode, and the nature of your disagreement. An NSI Lab Solutions representative will contact you within 48 hours.

# OHIO WATER ENVIRONMENT ASSOCIATION

Be it known that John M. Ondo is hereby Certified as a

## CLASS IV WASTEWATER ANALYST

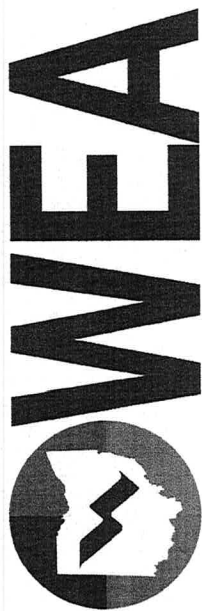
Having qualified under the Voluntary Wastewater Analyst Certification Program  
as adopted by the Ohio Water Environment Association  
relative to Analytical Personnel in Wastewater Laboratories



SERIAL NO. 4-93-14

In witness whereof I have subscribed my name  
this 30th day of November 19 93.

Kathleen M. Book  
President



**CLASS I  
WASTEWATER ANALYST**

*Be it known that*

**Rebecca Kalinoski**

*is hereby Certified as a Class I Wastewater Analyst*

**Certificate No. 1-18-18**

*Having qualified under the Voluntary Wastewater Analyst Certification Program as adopted by the Ohio Water Environment Association relative to Analytical Personnel in Wastewater Laboratories*

*In witness whereof I have subscribed my name this 14th day of November 2018*

**Fred Smith, President**

## Material Handling Exchange

Account # 8169

Jeremy Baughman 317-213-0178  
1001 Hurricane Road  
Franklin IN 46131

Lab ID IN01868

NPDES ID #

Study # QTA  
Study Type External PTOpen Date  
Close Date03/21/202  
03/28/202

NELAC #	Component	Method Code	Method Description	</> Value	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# 55061	Lot# 111822	WP pH @ 25°C - DMRQA								Invoice# 222332	Units pH
1900 pH		1419	SM 4500-H+-B 2011		7.72	7.60	7.6	7.4	7.8	ACCEPT.	03/27/202

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Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2016" and the current Fields of Proficiency Testing Tables, FoPT's.

All components are formulated with a combined uncertainty of 0.5% AV, and verified under Absolutes' NELAC scope ANAB Accreditation ISO 17043 (Cert. # AP-1543.01) as shown in blue f  
This report may be used in whole or in part by the participant. All results are confidential but limited to accreditation body or other participant requests!