



**Joseph R. Carruthers**  
**City of Canton STP**  
**350 W. Hickory Street**  
**Canton, IL 61520**  
**USA**

***DMR-QA 40***  ***Final Report***

**DMR-QA Proficiency Testing**

**NPDES Permit: IL0027839**

**DMR-QA Study**

**Open Date: 03/20/20**

**Close Date: 09/18/20**

**Report Issued Date: 10/16/20**



A Waters Company

October 16, 2020

Joseph R. Carruthers  
City of Canton STP  
350 W. Hickory Street  
Canton, IL 61520

Enclosed is your final report for ERA's DMR-QA 40 Proficiency Testing study. Please note that reports were sent on your behalf to your state or regional DMR-QA coordinator. As the permit holder, you are required to review and sign the attached EPA forms and checklists and forward them to your DMR-QA coordinator by November 20, 2020. Your coordinator's contact information is provided below.

All analytes in ERA's DMR-QA 40 Proficiency Testing study have been evaluated by comparing the reported result to the acceptance limits generated using the criteria contained in the most current TNI/NELAP and Whole Effluent Toxicity Testing-Non Potable Water Fields of Proficiency Testing (FoPT) tables.

If you have any "Not Acceptable" evaluations for the DMR-QA 40 study, a letter of corrective action and an order form for the required remedial samples are attached for your convenience. If you have a "Not Acceptable" evaluation, but there is not an order form or a list of standards for your in-house or outside laboratories, ERA recommends that you contact your DMR-QA coordinator for their corrective action requirements, if any.

Thank you for your participation in ERA's DMR-QA 40 Proficiency Testing study. If you have any questions, please contact the Proficiency Testing Department at 1-800-372-0122.

Your DMR-QA coordinator is:

Illinois EPA  
Michelle Rousey  
Bureau of Water  
1021 North Grand Avenue East  
PO Box 19276 (Mail Code 15)  
Springfield, IL 62794  
Phone: 217-785-3944  
michelle.rousey@illinois.gov

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Seebeck", is written over a white background.

Matthew Seebeck  
Quality Officer

attachments



# DMR-QA 40 Definitions & Study Discussion

**Study Dates: 03/20/20 - 09/18/20**

**Report Issued: 10/16/20**

## DMRQA Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are compliant with the most current TNI/NELAP Fields of Proficiency Testing (FoPT) table. A parameter not added to the standard is given an Assigned Value of "< PTRL" per the guidelines contained in the 2009 TNI Standards. The assigned values are directly traceable to the commercially prepared starting materials used to manufacture the PT standards.

The Acceptance Limits are established per the criteria contained in the most current TNI/NELAP FoPT table or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. This report is scored by the criteria in the 2016 TNI Standard, Volume 3, instead of by the criteria in the 2009 TNI Standard to which the Proficiency Testing Provider is accredited. This is a planned change and is endorsed by the TNI Proficiency Testing Program Executive Committee for transition to the 2016 TNI Standard.

The Performance Evaluation:

- Acceptable = Reported Value falls within the Acceptance Limits.
- Not Acceptable = Reported Value falls outside the Acceptance Limits.
- No Evaluation = Reported Value cannot be evaluated.
- Not Reported = No Value reported.

The Method Description is the method the laboratory reported to ERA.

## DMRQA Study Discussion

ERA's DMR-QA 40 Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standards and the 2016 TNI Standard, Volume 3, Section 5.9 and the criteria contained in the most current TNI/NELAP FoPT table.

ERA's DMR-QA 40 study standards were examined for any anomalies. A full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes met the acceptance criteria contained in the 2009 TNI Standard and the criteria contained in the most current TNI/NELAP FoPT table.

All analytes are included in ERA's A2LA accreditation, certification number 1539.01.

All activities associated with this proficiency testing study were performed by Waters/ERA with the exception of those noted below. The following physical samples/products were manufactured for Waters/ERA by a subcontractor:

Microbiology products with the following catalog numbers: 880, 935, 079, 077, 080, 595, 595A, 576, 576A

The data submitted by participating laboratories was also examined for study anomalies. There were no anomalies observed during the statistical review of the data.

ERA's DMR-QA 40 study reports shall not be reproduced except in their entirety and not without the permission of the participating laboratories. The report must not be used by the participating laboratories to claim product endorsement by any agency of the U. S. government.

The data contained herein are confidential and intended for your use only.

If you have any questions or concerns regarding your assessment in ERA's DMRQA Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.





Study: **DMR-QA 40**  
NPDES Permit #: **IL0027839**  
Laboratory Name: **City of Canton STP**

## Inorganic Results

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Study # : DMR-QA 40



# DMR-QA 40 Final Report




A Waters Company

**NPDES Permit #: IL0027839**  
**Permit Holder: Joseph R. Carruthers**  
**Chief Operator POTW**  
**City of Canton STP**  
**309-224-7100**

**ERA Customer Number: C009625**  
**Report Issued: 10/16/20**  
**Study Dates: 03/20/20 - 09/18/20**

TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
<b>DMRQA Hardness (cat# 580, lot# Q040-507)</b>											
1960	Total Suspended Solids	mg/L	Acceptable	81.2	88.6	72.8 - 98.3	SM 2540 D-2011 2011	83.7	4.51	IL00958	DMRQA40
<b>DMRQA pH (cat# 577, lot# Q040-977)</b>											
1900	pH	S.U.	Acceptable	6.30	6.30	6.10 - 6.50	SM4500H+ B online	6.31	0.0607	IL00958	DMRQA40
<b>DMRQA Simple Nutrients (cat# 584, lot# Q040-505)</b>											
1515	Ammonia as N	mg/L	Acceptable	11.5	10.9	8.69 - 13.1	SM 4500-NH3 D-2011 2011	10.9	0.766	IL00958	DMRQA40
<b>DMRQA Demand (cat# 578, lot# Q040-516)</b>											
1530	BOD	mg/L	Acceptable	118	133	71.9 - 194	SM 5210 B-2016 2016	132	25.7	IL00958	DMRQA40
<b>WP Low-Level Mercury (cat# 896, lot# P300-931)</b>											
1095	Low Level Mercury	ng/L	Acceptable	48.3	60.0	44.2 - 75.2	EPA 1631E 2002	61.1	7.81	WI01103	WP300
<b>DMRQA Total Residual Chlorine (cat# 587, lot# Q040-501)</b>											
1940	Total Residual Chlorine	mg/L	Acceptable	2.26	2.27	1.67 - 2.65	SM 4500-Cl G-2011 2011	2.12	0.173	IL00958	DMRQA40

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Study # : DMR-QA 40 



Study: **DMR-QA 40**  
NPDES Permit #: **IL0027839**  
Laboratory Name: **City of Canton STP**

## Microbiology Results

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Study # : DMR-QA 40



# DMR-QA 40 Final Report



A Waters Company

**NPDES Permit #: IL0027839**  
**Permit Holder: Joseph R. Carruthers**  
**Chief Operator POTW**  
**City of Canton STP**  
**309-224-7100**

**ERA Customer Number: C009625**  
**Report Issued: 10/16/20**  
**Study Dates: 03/20/20 - 09/18/20**

TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
<b>DMRQA WasteWatR™ Coliform MicrobE™ (cat# 576, lot# Q040-083)</b>											
2530	Fecal Coliforms (MF)	CFU/100mL	Acceptable	370	758	205 - 2810	SM 9222 D (m-FC)-2006 2006	758	434	IL00958	DMRQA40

This report is scored by the criteria in the 2016 TNI Standard, Volume 3, instead of by the criteria in the 2009 TNI Standard to which the Proficiency Testing Provider is accredited. This is a planned change and is endorsed by the TNI Proficiency Testing Program Executive Committee for transition to the 2016 TNI Standard.

Study # : DMR-QA 40



# USEPA DMR-QA 40

## NPDES PERMITTEE DATA REPORT FORM



A Waters Company

**Due November 20, 2020**

USEPA NPDES IL0027839

Permit #:

Permit Ext:

Permittee Name: City of Canton STP

Facility Address:

City:

State:

Postal Code:

-

Phone Number: 309-224-7100

Fax Number: 309-647-1391

-  -

-  -

E-mail address: jcarruthers@cantonlyhall.org

Optional: If WP study was used, list PT provider name:

Optional: WP study number(s):

Environmental Resource Associates

WP-300

For DMRQA-40, conducted in 2020, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples

Submitted Complete and Accurate Data  
by September 18, 2020

Received a Graded Report by  
October 16, 2020

Yes  No

Yes  No

Yes  No

### Certification by Permit Holder or Authorized Representative

(as per 40 C.F.R. Section 122.22)

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 from independent analyses conducted by us or any other laboratory before we reported our results to the USEPA. 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: Joseph R. Carruthers

Title: Chief Operator POTW

Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mailing Address: 350 W. Hickory Street

(enter only if different from address above)

City: Canton

State: IL

Postal Code: 61520

-

Phone Number: 309-224-7100

E-mail address: jcarruthers@cantonlyhall.org

-  -



**United States**  
**ENVIRONMENTAL PROTECTION AGENCY**

Laboratory Performance Evaluation  
Laboratory DMR-QA Evaluation Study 40

USEPA NPDES Permit #: IL0027839

Permit Ext:

**Identification of all CHEM, MICRO and TOX laboratories who did analyses for this permit**

Name of Laboratory	Address of Laboratory	U.S. EPA Lab Code	Lab Analysis Check box(es) that apply			Lab Type*	State-certified Lab**
			CHEM	MICRO	TOX		
City of Canton STP	350 W Hickory Canton, IL 61520	IL00958	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Pace Analytical Services - Green Bay	1241 Bellevue St, Ste 9 Green Bay, WI 54302	WI01103	<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 2 on DMRQA-40, Frequently Asked Questions page

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: IL00958

### Chemistry/Microbiology Analyte Checklist

#### DMRQA Study 40

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
<b>Minerals</b> Alkalinity as CaCO3 Chloride Conductivity at 25°C Fluoride Potassium Sodium Sulfate Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Hardness</b> Total Suspended Solids SM 2540 D-2011 Calcium Magnesium Calcium Hardness as CaCO3 Total Hardness as CaCO3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>pH</b> pH SM4500H+ B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Settleable Solids</b> Settleable Solids				
<b>Solids Concentrate</b> Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Solids</b> Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Simple Nutrients</b> Ammonia as N SM 4500-NH3 D-2011 Nitrate + Nitrite as N Nitrate as N ortho-Phosphate as P	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Complex Nutrients</b> Total Kjeldahl Nitrogen Total phosphorus as P				
<b>Nitrite</b> Nitrite as N				
<b>Demand</b> BOD				

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: IL00958

### Chemistry/Microbiology Analyte Checklist

#### DMRQA Study 40

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
SM 5210 B-2016 CBOD COD TOC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Oil &amp; Grease Concentrate</b> n-Hexane Extractable Material(O&G) (Grav)				
<b>Oil &amp; Grease</b> n-Hexane Extractable Material(O&G) (Grav) n-Hexane Extractable Material(O&G) (IR)				
<b>Trace Metals</b> Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Copper Iron Lead Manganese Molybdenum Nickel Selenium Silver Strontium Thallium Vanadium Zinc				
<b>Mercury</b> Mercury				
<b>Low-Level Mercury</b> Low Level Mercury				
<b>Hexavalent Chromium</b> Hexavalent Chromium				
<b>Turbidity</b> Turbidity				
<b>Total Cyanide</b> Cyanide, total				

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: IL00958

### Chemistry/Microbiology Analyte Checklist DMRQA Study 40

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
<b>Amenable Cyanide</b>				
<b>Total Phenolics (4-AAP)</b>				
Phenolics, total				
<b>Total Residual Chlorine</b>				
Free Residual Chlorine				
Total Residual Chlorine				
SM 4500-Cl G-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Low-Level Total Residual Chlorine</b>				
Low Level Total Residual Chlorine				
<b>WasteWatR™ Coliform MicrobE™</b>				
Total Coliforms (MF)				
Fecal Coliforms (MF)				
SM 9222 D (m-FC)-2006	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E.coli (MF)				
Total Coliforms (MPN)				
Fecal Coliforms (MPN)				
E.coli (MPN)				
<b>WasteWatR™ Coliform MicrobE™ - SM. 9221</b>				
Total Coliforms (MPN)				
Fecal Coliforms (MPN)				
E.coli (MPN)				

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature/Title

**Use a separate checklist for EACH lab used**

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: WI01103

### Chemistry/Microbiology Analyte Checklist

WP Study 300

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
<b>Minerals</b> Alkalinity as CaCO <sub>3</sub> Chloride Conductivity at 25°C Fluoride Potassium Sodium Sulfate Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Hardness</b> Total Suspended Solids Calcium Magnesium Calcium Hardness as CaCO <sub>3</sub> Total Hardness as CaCO <sub>3</sub>				
<b>pH</b> pH				
<b>Settleable Solids</b> Settleable Solids				
<b>Solids Concentrate</b> Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Solids</b> Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
<b>Simple Nutrients</b> Ammonia as N Nitrate + Nitrite as N Nitrate as N ortho-Phosphate as P				
<b>Complex Nutrients</b> Total Kjeldahl Nitrogen Total phosphorus as P				
<b>Nitrite</b> Nitrite as N				
<b>Demand</b> BOD CBOD COD TOC				

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: WI01103

### Chemistry/Microbiology Analyte Checklist

WP Study 300

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
<b>Oil &amp; Grease Concentrate</b>				
n-Hexane Extractable Material(O&G) (Grav)				
<b>Oil &amp; Grease</b>				
n-Hexane Extractable Material(O&G) (Grav)				
n-Hexane Extractable Material(O&G) (IR)				
<b>Trace Metals</b>				
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Manganese				
Molybdenum				
Nickel				
Selenium				
Silver				
Strontium				
Thallium				
Vanadium				
Zinc				
<b>Mercury</b>				
Mercury				
<b>Low-Level Mercury</b>				
Low Level Mercury EPA 1631E	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Hexavalent Chromium</b>				
Hexavalent Chromium				
<b>Turbidity</b>				
Turbidity				
<b>Total Cyanide</b>				
Cyanide, total Amenable Cyanide				
<b>Total Phenolics (4-AAP)</b>				
Phenolics, total				

Permittee Name: City of Canton STP

Permit Number: IL0027839

EPA Lab Code: WI01103

### Chemistry/Microbiology Analyte Checklist

WP Study 300

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
<b>Total Residual Chlorine</b>				
Free Residual Chlorine				
Total Residual Chlorine				
<b>Low-Level Total Residual Chlorine</b>				
Low Level Total Residual Chlorine				
<b>WasteWatR™ Coliform MicrobE™</b>				
Total Coliforms (MF)				
Fecal Coliforms (MF)				
E.coli (MF)				
Total Coliforms (MPN)				
Fecal Coliforms (MPN)				
E.coli (MPN)				
<b>WasteWatR™ Coliform MicrobE™ - SM. 9221</b>				
Total Coliforms (MPN)				
Fecal Coliforms (MPN)				
E.coli (MPN)				

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature/Title

**Use a separate checklist for EACH lab used**

# CERTIFICATE OF RECOGNITION

*ERA congratulates  
CITY OF CANTON STP*

*for your participation and successful evaluation in DMR-QA 40. We recognize the performance of this laboratory for achieving acceptable evaluations for the following analytes.*

Ammonia as N  
BOD

Fecal Coliforms (MF)  
pH

Total Residual Chlorine  
Total Suspended Solids



---

Matthew Seebeck  
Quality Officer

C009625