



Keith Richard
Decatur Sanitary District
501 Dipper Lane
Decatur, IL 62522-1842
USA

DMR-QA 37  *Final Report*

DMR-QA Proficiency Testing

NPDES Permit: IL0028321

DMR-QA Study

Open Date: 03/24/17

Close Date: 07/07/17

Report Issued Date: 08/04/17



A Waters Company

August 4, 2017

Keith Richard
Decatur Sanitary District
501 Dipper Lane
Decatur, IL 62522-1842

Enclosed is your final report for ERA's DMR-QA 37 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 September 1, 2017. Your coordinator's contact information is provided below.

All analytes in ERA's DMR-QA 37 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 FoPT tables.

If you have any "Not Acceptable" evaluations for the DMR-QA 37 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 37 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 Environmental Protection Agency
Michelle Rousey
Bureau of Water
1021 North Grand Avenue East, Mail Code 15
PO Box 19276
Springfield, IL 62794
Phone: 217-785-3944
Fax: 217-785-1225
michelle.rousey@illinois.gov

Sincerely,

A handwritten signature in black ink that reads "Patrick Larson". The signature is written in a cursive, flowing style.

Patrick Larson
Quality Officer

attachments



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DMR-QA 37 Definitions & Study Discussion

Study Dates: 03/24/17 - 07/07/17

Report Issued: 08/04/17

DMRQA Study Definitions

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

The ERA Assigned Values are compliant with the current FoPT tables. 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 FoPT tables, or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable.

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 37 Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standards and the criteria contained in the current TNI FoPT tables.

ERA's DMR-QA 37 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 PT Standard and the criteria contained in the current TNI Fields of Proficiency Testing (FoPT) tables.

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 37 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 37**
NPDES Permit #: **IL0028321**
Laboratory Name: **Decatur Sanitary District**

Inorganic Results



DMR-QA 37 Final Report



A Waters Company

NPDES Permit #: IL0028321
Permit Holder: Keith Richard
Laboratory Supervisor
Decatur Sanitary District
501 Dipper Lane
Decatur, IL 62522-1842
(217) 422-6931

ERA Customer Number: D233401
Report Issued: 08/04/17
Study Dates: 03/24/17 - 07/07/17

TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
DMRQA Hardness (cat# 580, lot# Q037-507)											
1960	Total Suspended Solids	mg/L	Acceptable	84.1	85.0	69.7 - 94.4	SM 2540 D-1997 1997	81.3	3.20	IL00998	DMRQA37
DMRQA pH (cat# 577, lot# Q037-977)											
1900	pH	S.U.	Acceptable	5.51	5.54	5.34 - 5.74	SM 4500-H+ B-1996 1996	5.53	0.0625	IL00998	DMRQA37
DMRQA Simple Nutrients (cat# 584, lot# Q037-505)											
1515	Ammonia as N	mg/L	Acceptable	19.5	17.4	14.0 - 20.6	SM 4500-NH3 G-1997 1997	17.4	1.24	IL00998	DMRQA37
DMRQA Demand (cat# 578, lot# Q037-516)											
1530	BOD	mg/L	Acceptable	104	93.0	49.8 - 136	SM 5210 B-1997 1997	93.0	17.0	IL00998	DMRQA37
1555	CBOD	mg/L	Acceptable	102	84.3	38.9 - 130	SM 5210 B-1997 1997	88.0	18.2	IL00998	DMRQA37
DMRQA Oil & Grease (cat# 582, lot# Q037-518)											
1803	n-Hexane Extractable Material(O&G)(Grav)	mg/L	Acceptable	51.2	55.5	36.4 - 67.1	EPA 1664A 1999	50.7	5.12	IL00998	DMRQA37

All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

Study # : DMR-QA 37



DMR-QA 37 Final Report



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TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
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DMRQA Trace Metals (cat# 586, lot# Q037-500)

1005	Antimony	µg/L	Acceptable	95.2	96.0	61.6 - 126	EPA 200.7 4.4 1994	95.9	5.21	IL00998	DMRQA37
1010	Arsenic	µg/L	Acceptable	246	249	201 - 295	EPA 200.7 4.4 1994	251	14.3	IL00998	DMRQA37
1015	Barium	µg/L	Acceptable	2090	2120	1800 - 2440	EPA 200.7 4.4 1994	2120	78.3	IL00998	DMRQA37
1020	Beryllium	µg/L	Acceptable	327	322	274 - 370	EPA 200.7 4.4 1994	322	14.6	IL00998	DMRQA37
1030	Cadmium	µg/L	Acceptable	694	705	599 - 811	EPA 200.7 4.4 1994	697	22.6	IL00998	DMRQA37
1040	Chromium	µg/L	Acceptable	518	519	441 - 597	EPA 200.7 4.4 1994	521	22.4	IL00998	DMRQA37
1055	Copper	µg/L	Acceptable	437	445	378 - 512	EPA 200.7 4.4 1994	445	19.7	IL00998	DMRQA37
1070	Iron	µg/L	Acceptable	2350	2300	1960 - 2640	EPA 200.7 4.4 1994	2320	89.8	IL00998	DMRQA37
1075	Lead	µg/L	Acceptable	475	480	408 - 552	EPA 200.7 4.4 1994	481	20.7	IL00998	DMRQA37
1090	Manganese	µg/L	Acceptable	299	294	250 - 338	EPA 200.7 4.4 1994	300	12.3	IL00998	DMRQA37
1105	Nickel	µg/L	Acceptable	721	725	636 - 819	EPA 200.7 4.4 1994	733	31.6	IL00998	DMRQA37
1140	Selenium	µg/L	Acceptable	474	475	404 - 546	EPA 200.7 4.4 1994	474	24.7	IL00998	DMRQA37
1150	Silver	µg/L	Acceptable	511	513	436 - 590	EPA 200.7 4.4 1994	513	23.9	IL00998	DMRQA37
1165	Thallium	µg/L	Acceptable	689	709	589 - 818	EPA 200.7 4.4 1994	709	31.9	IL00998	DMRQA37
1190	Zinc	µg/L	Acceptable	1090	1100	935 - 1260	EPA 200.7 4.4 1994	1100	49.1	IL00998	DMRQA37

DMRQA Hexavalent Chromium (cat# 898, lot# Q037-984)

1045	Hexavalent Chromium	µg/L	Acceptable	364	357	297 - 413	SM3500Cr D 19th ED 1990	353	14.8	IL00998	DMRQA37
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DMRQA Total Phenolics (4-AAP) (cat# 589, lot# Q037-515)

1905	Phenolics, total	mg/L	Acceptable	0.589	0.563	0.277 - 0.849	EPA 420.1 1978	0.624	0.111	IL00998	DMRQA37
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DMRQA Low-Level Total Residual Chlorine (cat# 881, lot# Q037-917)

1940	Low Level Total Residual Chlorine	µg/L	Acceptable	69.0	70.2	10.2 - 130	EPA 330.1 1978	73.4	14.0	IL00998	DMRQA37
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01



Study: **DMR-QA 37**
NPDES Permit #: **IL0028321**
Laboratory Name: **Decatur Sanitary District**

Microbiology Results





A Waters Company

DMR-QA 37 Final Report

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 Laboratory Supervisor
 Decatur Sanitary District
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 (217) 422-6931

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TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
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DMRQA WasteWatR™ Coliform MicrobE™ (cat# 576, lot# Q037-083)

2530	Fecal Coliforms (MF)	CFU/100mL	Acceptable	290	1090	143 - 1530	SM 9222 D (m-FC)-1997 1997	468	231	IL00998	DMRQA37
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Per Section 6.4.3 a of the 2009 TNI Standard, "The assigned values for quantitative microbiology analytes shall be equal to the mean of the assigned value verification and/or homogeneity testing per Sections 7.1 and 7.2". The final acceptance limits are derived from the calculated study mean and study standard deviation from laboratory-reported results. Disagreement between the assigned values and study means/acceptance limits are due to the inherent variability of microbiology methods and differences in the methods used by ERA and participant laboratories. For quantitative microbiology analytes, the assigned value is not used in the evaluation of laboratories.



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01



USEPA DMR-QA 37

NPDES PERMITTEE DATA REPORT FORM



A Waters Company

Due September 1, 2017

USEPA NPDES IL0028321

Permit #:

Permit Ext:

Permittee Name: Decatur Sanitary District

Facility Address: 501 Dipper Lane

City: Decatur

State: IL

Postal Code: 62522-1842

Phone Number: (217) 422-6931

Fax Number: (217) 423-8171

E-mail address: keithr@sddcleanwater.org

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

Optional: WP study number(s):

For DMRQA-37, conducted in 2017, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples

Yes No

Submitted Complete and Accurate Data
by July 7, 2017

Yes No

Received a Graded Report by
August 4, 2017

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: Keith Richard

Title: Laboratory Supervisor

Signature: _____

Date Signed: _____ / _____ / _____

Mailing Address: 501 Dipper Lane

(enter only if different from address above)

City: Decatur

State: IL

Postal Code: 62522-1842

Phone Number: (217) 422-6931

E-mail address: keithr@sddcleanwater.org

United States
ENVIRONMENTAL PROTECTION AGENCY
Laboratory Performance Evaluation
Laboratory DMR-QA Evaluation Study 37

USEPA NPDES Permit #: IL0028321 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			Lab Type*	State-certified Lab**
			Check box(es) that apply				
			CHEM	MICRO	TOX		
Decatur Sanitary District	501 Dipper Lane Decatur, IL 62522-1842	IL00998	<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-37, Frequently Asked Questions page

Permittee Name: Decatur Sanitary District

Permit Number: IL0028321

EPA Lab Code: IL00998

Chemistry/Microbiology Analyte Checklist DMRQA Study 37

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
Minerals Alkalinity as CaCO3 Chloride Conductivity at 25°C Fluoride Potassium Sodium Sulfate Total Dissolved Solids at 180°C Total Solids at 105°C				
Hardness Total Suspended Solids SM 2540 D-1997 Calcium Magnesium Calcium Hardness as CaCO3 Total Hardness as CaCO3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH pH SM 4500-H+ B-1996	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids Settleable Solids				
Solids Concentrate Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
Solids Total Suspended Solids Total Dissolved Solids at 180°C Total Solids at 105°C				
Simple Nutrients Ammonia as N SM 4500-NH3 G-1997 Nitrate + Nitrite as N Nitrate as N ortho-Phosphate as P	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex Nutrients Total Kjeldahl Nitrogen Total phosphorus as P				
Nitrite Nitrite as N				
Demand BOD				

Permittee Name: Decatur Sanitary District

Permit Number: IL0028321

EPA Lab Code: IL00998

Chemistry/Microbiology Analyte Checklist DMRQA Study 37

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
SM 5210 B-1997	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CBOD				
SM 5210 B-1997	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD				
TOC				
Oil & Grease Concentrate				
n-Hexane Extractable Material(O&G) (Grav)				
Oil & Grease				
n-Hexane Extractable Material(O&G) (Grav)				
EPA 1664A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n-Hexane Extractable Material(O&G) (IR)				
Trace Metals				
Aluminum				
Antimony				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boron				
Cadmium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt				
Copper				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum				
Nickel				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Permittee Name: Decatur Sanitary District

Permit Number: IL0028321

EPA Lab Code: IL00998

Chemistry/Microbiology Analyte Checklist DMRQA Study 37

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
Silver EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strontium Thallium EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium Zinc EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low-Level Mercury Low Level Mercury				
Mercury Mercury				
Hexavalent Chromium Hexavalent Chromium SM3500Cr D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity Turbidity				
Total Cyanide Cyanide, total Amenable Cyanide				
Total Phenolics (4-AAP) Phenolics, total EPA 420.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine Total Residual Chlorine				
Low-Level Total Residual Chlorine Low Level Total Residual Chlorine EPA 330.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WasteWatR™ Coliform MicrobE™ Total Coliforms (MF) Fecal Coliforms (MF) SM 9222 D (m-FC)-1997	<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)				
WasteWatR™ Coliform MicrobE™ - SM. 9221 Total Coliforms (MPN) Fecal Coliforms (MPN) E.coli (MPN)				

CERTIFICATE OF RECOGNITION

*ERA congratulates
DECATUR SANITARY DISTRICT*

for your participation and successful evaluation in DMR-QA 37. We recognize the performance of this laboratory for achieving acceptable evaluations for the following analytes.

Ammonia as N	Copper	pH
Antimony	Fecal Coliforms (MF)	Phenolics, total
Arsenic	Hexavalent Chromium	Selenium
Barium	Iron	Silver
Beryllium	Lead	Thallium
BOD	Low Level Total Residual Chlorine	Total Suspended Solids
Cadmium	Manganese	Zinc
CBOD	n-Hexane Extractable Material(O&G)(Grav)	
Chromium	Nickel	



Patrick Larson
Quality Officer

D233401