

Michael W Scheetz Timpanogos Special Service District P.O. Box 923 American Fork, UT 84003 USA



WatR™Pollution Proficiency Testing

WatR™Pollution Study

Open Date: 05/15/17

Close Date: 06/29/17

Report Issued Date: 07/05/17



July 5, 2017

Michael W Scheetz Timpanogos Special Service District P.O. Box 923 American Fork, UT 84003

Enclosed is your final report for ERA's WP-268 WatR™Pollution Proficiency Testing (PT) study. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's WP-268 WatR™Pollution Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the current TNI Fields of Proficiency Testing (FoPT) tables, the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the current TNI FoPT tables. If the analyte is not included in the TNI FoPT tables, the reported result has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 730002268).

Corrective Action Help: As part of your accreditation(s), you may be required to identify the root cause of any "Not Acceptable" results, implement the necessary corrective actions, and then satisfy your PT requirements by participating in a Supplemental (QuiK™Response) or future ERA PT study. ERA's technical staff is available to help your laboratory resolve any technical issues that may be impairing your PT performance and possibly affecting your routine data quality. Our laboratory and technical staff have many years of collective experience in performing the full range of environmental analyses. As part of our technical support, ERA offers QC samples that can be useful in helping you work through your technical issues.

At the request of the TNI Accreditation Council, we have included a Laboratory Exception Report that includes a list of all analytes reported with less than qualifiers when the assigned value was greater than "0." In addition, because we have received many requests from laboratories, this report also includes a list of all analytes with "Not Acceptable" evaluations.

Some states have elected not to convert to the 2009 TNI Standards at this time. If you have released your results to a state that has retained the 2003 NELAC Evaluation Criteria, your final report will include a section that evaluates the results according to the 2003 Standard in addition to the 2009 TNI Standards.

Thank you for your participation in ERA's WP-268 WatR™Pollution Proficiency Testing study. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Patrick Larson Quality Officer

attachments



| Report Recipient | Contact/Phone Number | Reporting Type | Evaluation Type |
|------------------|----------------------|----------------|-----------------|
| Utah | Cathy Mitchell / | All Analytes | 2009 TNI |



WP-268 Definitions & Study Discussion

Study Dates: 05/15/17 - 06/29/17 Report Issued: 07/05/17

WP 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 Fields of Proficiency Testing (FoPT) tables. 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 USEPA/NELAC 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.

WP Study Discussion

ERA's WP-268 WatR™Pollution Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standard and the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) tables.

ERA's WP-268 WatR™Pollution 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 most current TNI 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 WP-268 WatR™Pollution 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 WatR™Pollution Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.









WP-268 Laboratory Exception Report

Michael W Scheetz Laboratory Director Timpanogos Special Service District P.O. Box 923 American Fork, UT 84003 (801) 763-5936

 EPA ID:
 UT00043

 ERA Customer Number:
 T349901

 Report Issued:
 07/05/17

 Study Dates:
 05/15/17 - 06/29/17

2009 TNI Evaluation Checks

There are no values reported with < where the assigned value was greater than 0.

2009 TNI Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.







Final Report Results For Laboratory Timpanogos Special Service District







2009 TNI Evaluation Report

Study: **WP-268**

ERA Customer Number: T349901

Laboratory Name: Timpanogos Special

Service District

Inorganic Results





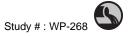


WP-268 2009 TNI Evaluation Final Complete Report

Michael W Scheetz Laboratory Director Timpanogos Special Service District P.O. Box 923 American Fork, UT 84003 (801) 763-5936 EPA ID: UT00043
ERA Customer Number: T349901
Report Issued: 07/05/17
Study Dates: 05/15/17 - 06/29/17

| TNI Analyte Code | Analyte | Units | Reported Value | Assigned Value | Acceptance Limits | Performance Evaluation | Method Description | Analysis Date | Z Score | Study Mean | Study Standard Deviation | Analyst Name |
|---------------------------------------|--|-------|-------------------|-------------------|----------------------|---------------------------|-------------------------|------------------|---------|---------------|--------------------------------|--------------|
| WP Hardness (cat# 580, lot# P268-507) | | | | | | | | | | | | |
| 1960 | Total Suspended Solids | mg/L | 67.7 | 69.1 | 55.6 - 77.5 | Acceptable | SM2540D 22nd ED 2011 | 6/20/2017 | 0.734 | 65.5 | 2.93 | MWS |
| 1035 | Calcium | mg/L | | 20.4 | 17.3 - 23.5 | Not Reported | | | | 20.4 | 0.971 | |
| 1085 | Magnesium | mg/L | | 13.1 | 11.1 - 15.1 | Not Reported | | | | 13.0 | 0.563 | |
| 1550 | Calcium Hardness as CaCO3 | mg/L | | 50.9 | 43.3 - 58.5 | Not Reported | | | | 51.3 | 2.18 | |
| 1755 | Total Hardness as CaCO3 | mg/L | | 105 | 89.2 - 121 | Not Reported | | | | 104 | 3.51 | |
| WP pH (cat# 577, lot# P268-977) | | | | | | | | | | | | |
| 1900 | рН | S.U. | 6.70 | 6.69 | 6.49 - 6.89 | Acceptable | SM4500H+ B 22nd ED 2011 | 6/20/2017 | 0.0281 | 6.70 | 0.0441 | MWS |
| WP Simp | ole Nutrients (cat# 584, lot# P268-505) | | | | | | | | | | | |
| 1515 | Ammonia as N | mg/L | 14.4 | 16.2 | 13.0 - 19.2 | Acceptable | HACH 10205 5th ED 2008 | 6/25/2017 | -1.69 | 16.1 | 0.985 | MWS |
| 1820 | Nitrate + Nitrite as N | mg/L | | 9.03 | 7.49 - 10.5 | Not Reported | | | | 9.05 | 0.342 | |
| 1810 | Nitrate as N | mg/L | 9.05 | 9.03 | 7.44 - 10.6 | Acceptable | HACH 10206 6th ED 2011 | 6/26/2017 | -0.0977 | 9.09 | 0.363 | MWS |
| 1870 | ortho-Phosphate as P | mg/L | 0.619 | 0.603 | 0.513 - 0.693 | Acceptable | HACH 10209 5th ED 2008 | 6/25/2017 | 0.438 | 0.604 | 0.0344 | MWS |
| WP Com | WP Complex Nutrients (cat# 579, lot# P268-525) | | | | | | | | | | | |
| 1795 | Total Kjeldahl Nitrogen | mg/L | 9.88 | 10.1 | 7.39 - 12.7 | Acceptable | HACH 10242 3 2014 | 6/25/2017 | 0.0741 | 9.81 | 0.890 | MWS |
| 1910 | Total phosphorus as P | mg/L | 6.88 | 6.65 | 5.53 - 7.70 | Acceptable | HACH 10210 8th ED 2014 | 6/25/2017 | 0.383 | 6.73 | 0.390 | MWS |
| WP Nitrit | re (cat# 888, lot# P268-770) | | | | | | | | | | | |
| 1840 | Nitrite as N | mg/L | 1.536 | 1.50 | 1.25 - 1.74 | Acceptable | HACH 10207 5th ED 2008 | 6/26/2017 | 0.215 | 1.52 | 0.0787 | MWS |





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WP-268 2009 TNI Evaluation Final Complete Report

A Waters Company

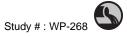
Michael W Scheetz
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P.O. Box 923
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(801) 763-5936

EPA ID: UT00043
ERA Customer Number: T349901
Report Issued: 07/05/17
Study Dates: 05/15/17 - 06/29/17

| TNI Analyte Code | Analyte | Units | Reported Value | Assigned Value | Acceptance Limits | Performance Evaluation | Method Description | Analysis Date | Z Score | Study Mean | Study Standard Deviation | Analyst Name |
|------------------------|-------------------------------|-------|-------------------|-------------------|----------------------|---------------------------|----------------------|------------------|---------|---------------|--------------------------------|--------------|
| WP Dem | and (cat# 578, lot# P268-516) | | | | | | | | | | | |
| 1530 | BOD | mg/L | 125.0 | 111 | 59.8 - 162 | Acceptable | SM5210B 22nd ED 2011 | 6/20/2017 | 0.834 | 111 | 17.0 | MWS-CP |
| 1555 | CBOD | mg/L | | 101 | 46.9 - 154 | Not Reported | | | | 105 | 17.2 | |
| 1565 | COD | mg/L | | 181 | 145 - 210 | Not Reported | | | | 179 | 11.7 | |
| 2040 | тос | mg/L | | 71.5 | 59.9 - 82.3 | Not Reported | | | | 70.9 | 2.67 | |







2009 TNI Evaluation Report

Study: **WP-268**

ERA Customer Number: T349901

Laboratory Name: Timpanogos Special

Service District

Microbiology Results





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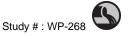
WP-268 2009 TNI Evaluation Final Complete Report

Michael W Scheetz Laboratory Director Timpanogos Special Service District P.O. Box 923 American Fork, UT 84003 (801) 763-5936 EPA ID: UT00043
ERA Customer Number: T349901
Report Issued: 07/05/17
Study Dates: 05/15/17 - 06/29/17

| TNI Analyte Code | Analyte | Units | Reported Value | Assigned Value | Acceptance Limits | Performance Evaluation | Method Description | Analysis Date | Z Score | Study Mean | Study Standard Deviation | Analyst Name |
|---|-----------------------|-----------|-------------------|-------------------|----------------------|---------------------------|----------------------|------------------|---------|---------------|--------------------------------|--------------|
| WP WasteWatR™ Coliform MicrobE™ (cat# 576, lot# P268-083) | | | | | | | | | | | | |
| 2500 | Total Coliforms (MF) | CFU/100mL | | 150 | 100 - 225 | Not Reported | | | | 150 | 20.7 | |
| 2530 | Fecal Coliforms (MF) | CFU/100mL | | 150 | 21.0 - 309 | Not Reported | | | | 81.0 | 48.0 | |
| 2525 | E.coli (MF) | CFU/100mL | | 150 | 24.0 - 396 | Not Reported | | | | 97.6 | 62.0 | |
| 2500 | Total Coliforms (MPN) | MPN/100mL | | 181 | 80.5 - 349 | Not Reported | | | | 168 | 44.7 | |
| 2530 | Fecal Coliforms (MPN) | MPN/100mL | | 181 | 84.1 - 216 | Not Reported | | | | 135 | 22.1 | |
| 2525 | E.coli (MPN) | MPN/100mL | 141.4 | 181 | 86.0 - 340 | Acceptable | SM9223B 22nd ED 2004 | 6/19/2017 | -0.0509 | 171 | 42.3 | MWS |

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.





CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WP-268

Timpanogos Special Service District

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 554 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Complex Nutrients Demand

Hardness Nitrite

pH Simple Nutrients

WasteWatR™ Coliform

MicrobE™

Par Jane