City of Tacoma
Environmental Services Department

November 21, 2018

Vince McGowan
Municipal Stormwater Planner
Department of Ecology-Water Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. McGowan:

SUBJECT: City of Tacoma Environmental Services Laboratory Continuing Demonstration of Method Performance for Total Nitrogen by Combustion and Chemiluminescence

Enclosed you will find the results for our annual Continuing Demonstration of Method Performance results for the year 2018. All demonstration criteria were met, and the City would like to continue to use this method for compliance with our Phase 1 NPDES Municipal Stormwater and Wastewater permits. All analytical data used to support this performance demonstration is stored at the facility, and can be reviewed by your staff upon request.

Please feel free to contact me for analysis results or any other questions you may have.

Sincerely,

Matt Boyles
Environmental Scientist III
City of Tacoma
Environmental Services Laboratory
mboyles@cityoftacoma.org
(253) 502-2252

MB/sb
Enclosure

Checklist for Continuing Demonstration of Method Performance- 2018 City of Tacoma-**Stormwater**

Date June 18, 2018

Laboratory Name and Address: City of Tacoma Environmental Services Laboratory, 326 East D St, Tacoma, WA 98421

Facility Name: City of Tacoma Environmental Services Laboratory

Discharge Point ID: NA

EPA Program and Applicable Regulation: NPDES

Medium: Municipal Stormwater

Analytes: Total Nitrogen (TN)

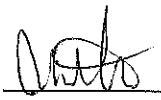
Continuing Demonstration of Method Performance

Category	Required Frequency	Performance Criteria	Results Obtained	Performance Spec. Achieved
1. Method Blank Results	1 per Analytical Batch	TN<0.2 mg/L	TN= -0.01-.029 mg/L	Yes
2. Concentration of Calibration Standards	annually	R^2> 0.995	TN= 0.1-5 mg/L TN= 1-20 mg/L TN= 5-100 mg/L	Yes
3. Calibration Verification	1 every 10 samples	75-125%	TN=83-108 %	Yes
4. Laboratory Control Sample (LCS or SRM)	1 Per Analytical Batch	72-126%	TN= 81-124%	Yes
5. Performance Evaluation Study [1]	Annual	NA	NA	NA
6. Analytes not acceptable in PE study	NA			
7. Surrogates	NA			NA
8. Surrogate Conc.	NA			NA
9. Surrogate Recovery	NA			NA
10. Matrix	Stormwater			Yes
11. Matrix Spike Compounds	Per Analytical Batch	KNO_3		Yes
12. Spike Concentrations			TN=2.5- 5 mg/L	Yes

13. Spike Recoveries	1 Per Analytical Batch	75-125%	TN=75-123 %	Yes
14. Qualitative Identification	Per Analytical Batch		Responses free of interferences in blanks, acceptable recovery for LCS/SRM	Yes
15. Precision	1 Per Analytical Batch	RPD<20%	TN=0.1-11 %	Yes

1-No PT providers produce total nitrogen PT samples, City of Tacoma laboratory obtained accreditation for this analyte from Department of Ecology without the requirement for PT study results.

Name and Signature of each analyst involved in continuing demonstration of method performance (includes all steps in the proposed method/modification)

Name: Matt Boyles Signature:  Date: 11-26-18

Name: Tamara Woodard Signature:  Date: 11/21/18

The certification above must accompany this form each time it is submitted.

Checklist for Continuing Demonstration of Method Performance- 2018 City of Tacoma-**Sewer Effluent**

June 18, 2018

Laboratory Name and Address: City of Tacoma Environmental Services Laboratory, 326 East D St, Tacoma, WA 98421

Facility Name: City of Tacoma Environmental Services Laboratory

Discharge Point ID: NA

EPA Program and Applicable Regulation: NPDES

Medium: Municipal Sewer Effluent

Analytes: Total Nitrogen (TN)

Continuing Demonstration of Method Performance

Category	Required Frequency	Performance Criteria	Results Obtained	Performance Spec. Achieved
Method Blank Results	Per Analytical Batch	TN<0.2 mg/L	TN= -0.01-.029 mg/L	Yes
Concentration of Calibration Standards	annually	R^2> 0.995	TN= 0.1-5 mg/L TN= 1-20 mg/L TN= 5-100 mg/L	Yes
Calibration Verification	1 per 10 samples	75-125%	TN=83-108 %	Yes
Laboratory Control Sample (LCS)	Per Analytical Batch	72-126%	TN= 81-124%	Yes
5. Performance Evaluation Study[1]	Annual	NA	NA	NA
Analytes not acceptable in PE study	NA			Yes
Surrogates	NA			NA
Surrogate Conc.	NA			NA
Surrogate Recovery	NA			NA
Matrix	Sewer Effluent			Yes
Matrix Spike Compounds	Per Analytical	KNO_3		Yes

	Batch			
Spike Concentrations			TN= 50 mg/L	Yes
Spike Recoveries	Per Analytical Batch	75-125%	TN= 75-123%	Yes
Qualitative Identification	Per Analytical Batch		Responses free of interferences in blanks, acceptable recovery for LCS	Yes
Precision	Per Analytical Batch	RSD<20%	TN= 0.1-11%	Yes

1-No PT providers produce total nitrogen PT samples, City of Tacoma laboratory obtained accreditation for this analyte from Department of Ecology without the requirement for PT study results.

Name and Signature of each analyst involved in continuing demonstration of method performance (includes all steps in the proposed method/modification)

Name: Matt Boyles Signature: _____ Date: 11-26-18

Name: Tamara Woodard Signature: _____ Date: 11/21/18

Certification Statement

November 21, 2018

Laboratory Name & Address:	City of Tacoma, Environmental Services Laboratory 326 East D St. Tacoma, WA 98421
Facility Name:	City of Tacoma Environmental Services Laboratory
Discharge Point ID:	NA
EPA Program and Applicable Regulation:	NPDES
Medium:	Non-potable Water
Analyte or Class of Analytes:	Total Nitrogen by Combustion and Chemiluminescence

We, the undersigned, CERTIFY that:

1. The method(s) in use at this facility for the analysis/analyses of samples for the programs of the U.S. Environmental Protection Agency have met the initial and any required Continuing Demonstration of Method Performance Criteria specified by EPA.

2. A copy of the method used to perform these analyses, written in EMMC format, and copies of the reference method and laboratory-specific SOPs are available for all personnel on-site.

3. The data and checklists associated with the initial and continuing demonstration of method performance are true, accurate, complete and self-explanatory.[1]

4. All raw data (including a copy of this certification form) necessary to reconstruct and validate these performances related analyses have been retained at the facility and that the associated information is well organized and available for review by authorized inspectors.

Stuart Magoon — Facility Manager's Name and Title

Signature — 11/21/2018 — Date

Lori A. Zboralski
Lori A. Zboralski — Quality Assurance Officer's Name

Lori A. Zboralski — 11/21/2018 — Signature — Date

This certification form must be completed when the method is originally certified, each time a continuing demonstration of method performance is documented, and whenever a change of personnel involves the Facility manager or the Quality Assurance Officer.

[1] True: Consistent with supporting data.

Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.

Complete: Includes the results of all supporting performance testing.

Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.