

TNI Annual Report 2022

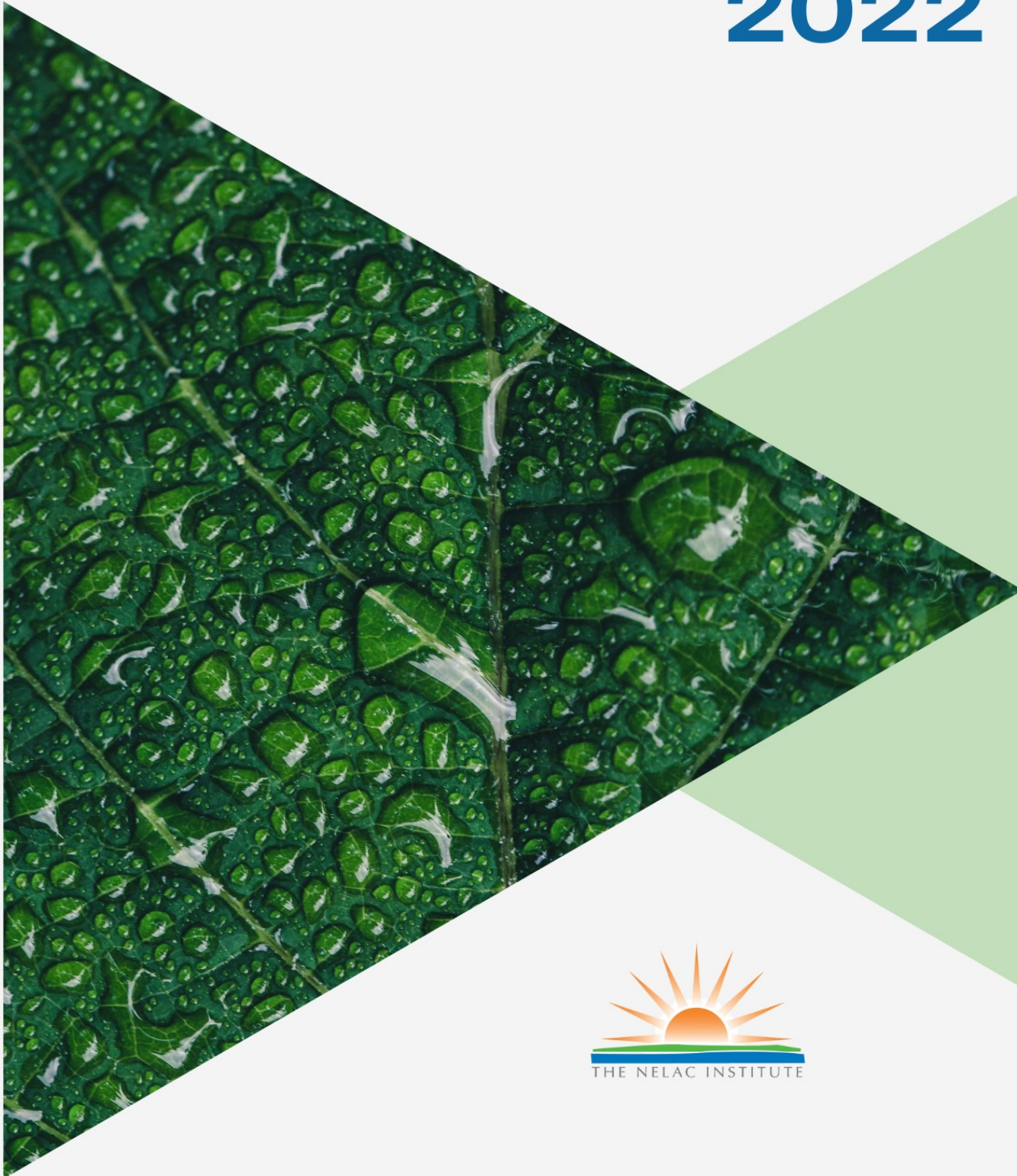


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List of Acronyms Used in this Report

AB	—	Accreditation Body
AC	—	NELAP Accreditation Council
ANSI	—	American National Standards Institute
CSDP	—	Consensus Standards Development Program
CSDP EC	—	Consensus Standards Development Program Executive Committee
DS	—	Draft Standard
DW	—	Drinking Water
EC	—	Evaluation Coordinator
ELAP	—	Environmental Laboratory Accreditation Program
EMS	—	Environmental Measurement Symposium
EPA	—	Environmental Protection Agency
ET	—	Evaluation Team
FAC	—	Field Activities Expert Committee
FoPT	—	Field of Proficiency Testing
FSMO	—	Field Sampling and Measurement Organization
IEC	—	International Electrochemical Commission
ILAC	—	International Laboratory Accreditation Cooperation
ISO	—	International Standards Organization
LAB	—	Laboratory Accreditation Body Expert Committee
LASEC	—	Laboratory Accreditation System Executive Committee
LE	—	Lead Evaluator
M	—	Module
NEFAP	—	National Environmental Field Activities Program
NEFAP EC	—	National Environmental Field Activities Program Executive Committee
NELAP	—	National Environmental Laboratory Accreditation Program
NEMC	—	National Environmental Monitoring Conference
NGAB	—	Non-Governmental Accreditation Body
NPW	—	Non-Potable Water
OGWDW	—	EPA Office of Ground Water and Drinking Water
PT	—	Proficiency Testing
PTP	—	Proficiency Testing Program
PTPEC	—	Proficiency Testing Program Executive Committee
PTPA	—	Proficiency Test Provider Accreditor
QMS	—	Quality Management System
SCM	—	Solid and Chemical Materials
SIR	—	Standard Interpretation Request
SOP	—	Standard Operating Procedure
SSAS	—	Stationary Source Audit Sample
TNI	—	The NELAC Institute*
V	—	Volume
WET	—	Whole Effluent Toxicity

** Note that in the context of TNI, the word NELAC is not an acronym; it is a contrived word reflecting our heritage.*



OVERVIEW

The NELAC Institute (TNI) is pleased to present its annual report summarizing accomplishments for 2022 and plans for 2023.

The NELAC Institute (TNI) is a 501(c)(3) non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community. The organization is managed by a Board of Directors and is governed by organizational bylaws. TNI's vision is a true national accreditation program, whereby all entities involved in the generation of environmental measurement data within the United States are accredited to one uniform, rigorous, and robust program that has been implemented consistently nationwide and focuses on the technical competence of the entity pursuing accreditation. TNI believes such a program will improve the quality and reliability of environmental data used by federal and state agencies.

To support this mission, TNI operates the following programs and related efforts:

1. Administration and Support
2. Consensus Standards Development Program (CSDP)
3. National Environmental Field Activities Program (NEFAP)
4. National Environmental Laboratory Accreditation Program (NELAP)
5. Proficiency Testing Program (PTP)
6. Task Forces and Other Activities

Appendix 1 contains a list of the TNI Board of Directors, all committees and all other groups. The following individuals are recognized for their service as committee chairs whose term ended in 2022:

- ◆ Fred Anderson, PT Executive
- ◆ Justin Brown, NEFAP Executive
- ◆ Sheri Heldstab, Stationary Source Audit Sample
- ◆ Shawn Kassner, PTP Executive
- ◆ Valerie Slaven, Chemistry

Appendix 2 contains details relative to new method and analyte codes added in 2022.

1.0 ADMINISTRATION

1.1 Board of Directors

The TNI Board “supervises, controls and directs the business affairs of TNI” by reviewing monthly program reports, reviewing and approving policies and Standard Operation Procedures (SOPs), reviewing financial performance, and taking on other related activities.

1.2 Advocacy Committee

The Advocacy Committee:

- ◆ Conducts outreach with other organizations (e.g., ACIL, AWWA, WEF), EPA program offices, state agencies, and others that have an interest in accreditation issues.
- ◆ Develops presentations and papers to promote national accreditation and to promote TNI.
- ◆ Provides outreach at national, regional and local meetings, and supports TNI’s meetings.
- ◆ Assists with publication of the member newsletter.
- ◆ Supported the Mentor Subcommittee until handing off to staff in 2022.
- ◆ Assists with conference planning.

2022 Accomplishments

1.2.1 Outreach

TNI made presentations on TNI activities at the following meetings:

- American Council of Independent Laboratories (ACIL) on April 26,
- Texas Commission on Environmental Quality on May 10,
- Virginia Water Environment Association on September 12,
- Gulf Coast Conference on October 12, and
- Oregon Environmental Laboratory Association on October 17.

1.2.2 2022 Meetings

1.2.2.1 Forum on Environmental Accreditation – San Antonio, TX

- We had 189 attendees, with 40 of these attending virtually.
- The Forum featured 11 TNI committee meetings, 2 training courses, and 5 other sessions including the TNI Annual Report, a special session on Radiochemistry PT, an Assessment Form, a Mentor session, and a special session on Quality and Technical Experts.



1.0 ADMINISTRATION cont.

1.2.2.2 Environmental Measurement Symposium – Crystal City, VA

The 2022 Environmental Measurement Symposium was held in Crystal City, VA, from August 1-4, 2022. For the seventeenth year, the Symposium consisted of a combined meeting of the National Environmental Monitoring Conference (NEMC) and the Forum on Environmental Accreditation. There were 457 attendees including 29 that attended virtually.

The 38th meeting of NEMC had 140 technical presentations over 5 days.

- Nineteen technical breakout sessions with 100 oral and 25 poster presentations,
- Three keynote presentations,
- One general session with 4 presentations,
- One EPA session with 3 presentations, and
- 5 vendor lunch presentations.

The TNI portion of the symposium consisted of:

- Fifteen TNI Committee meetings,
- An Assessment Forum, and
- A Mentor Session.

The Conference also featured:

- An exhibit program showcasing the latest innovations in environmental monitoring with 54 exhibitors,
- An innovative new technology showcase,
- A training course on microbiology, and
- A meeting of the Environmental Monitoring Coalition.

1.2.3 Newsletter

TNI's newsletter, The Institute Review, was published in May and November 2022. Copies of the newsletter can be found at: <https://nelac-institute.org/content/newsletter.php>.

1.2.4 Mentor Subcommittee

The Steering Committee was disbanded and this activity turned over to staff to manage.



1.0 ADMINISTRATION cont.

1.2.5 Ambassador Program

The committee expanded the “TNI Ambassador” efforts by recruiting additional ambassadors. The purpose of this effort is to have one individual in each state that is not a NELAP Accreditation Body (AB) to act as a conduit between TNI and that state. We currently have ambassadors for Arkansas, California, Georgia, Kansas, Nevada, Tennessee, Washington, Wisconsin, and all of EPA Region 1.

The committee also developed an SOP to assist with this effort, and revised the committee Charter to include Ambassadors.

1.2.6 Other Activities

The committee supported the Executive Director in creating a formal response to an LC/GC article that cast doubt on the value of accreditation.

The committee complete a five-year review of all policies and SOPs related to the committee's efforts.

2023 Objectives

- Create a plan for national accreditation and systematic outreach to data users that will explain and promote the benefits of a quality management system.
- Revise the “Introduction to TNI” to create a webinar for new members.
- Monitor EPA/federal activities for opportunities to share TNI’s activities and promote national accreditation.
- Update the State of National Accreditation Report and deliver to EPA Environmental Methods Forum and non-NELAP state contacts.
- Look for opportunities to add TNI Ambassadors for non-NELAP states.
- Sustain
 - organizing newsletter publication,
 - providing assistance to conference planning, and
 - support for Small Laboratory Advocate role.
- Provide outreach (e.g., presentations and papers) to promote The NELAC Institute and TNI's programs.

1.0 ADMINISTRATION cont.

Future Meetings

- Forum on Environmental Accreditation
January 9 - 12, 2023 (San Antonio, TX)
- Environmental Measurement Symposium
July 31 - August 3, 2023 (Minneapolis, VA)

1.3 Information Technology Committee

The Information Technology Committee:

- ◆ Provides recommendations as to the design and content of the TNI website.
- ◆ Manages the TNI Laboratory Accreditation Management System.
- ◆ Maintains TNI databases such as technology codes, method codes and analyte codes.

2022 Accomplishments

- Created a new AB category in LAMS, Supplemental Primary AB, to address situations where a laboratory has two primary ABs.
- Implemented “TNI Management” an on-line platform for tracking committee applications and membership status.

Table 1. Laboratory Accreditation Management System (LAMS) Summary for 2022

Accreditation Bodies	14
Non-Governmental Accreditation Bodies	4
Active Laboratories	1,237
Primary Fields of Accreditation	291,689
Secondary Fields of Accreditation	399,257
Total Fields of Accreditation	690,946
Active Methods	4,942
Methods added in 2022	182*
Methods Retired	199*
Methods in Compendium	4,641
Active Analytes	3,573
Analytes added in 2022	89*

*See Appendix 2 for details



1.0 ADMINISTRATION cont.

2023 Objectives

- Continue to support the website and LAMS.
- Support the credentialing initiative.
- Expand LAMS into non-NELAP states.
- Work with other groups to resolve method and analyte code issues for oil and grease, cyanide, and microbiology.

1.4 Policy Committee

The Policy Committee:

- ◆ Serves as a resource for the development of policies.
- ◆ Reviews policies and procedures from all programs for conformity with respect to style and for consistency with one another and with the overall mission of TNI.
- ◆ Develops general policies and procedures for TNI.

2022 Accomplishments

- ◆ Developed and/or approved the following policies or SOPs:
 - ★ SOP 1-101 (Operation of TNI Committees)
 - ★ SOP 1-125 (Committee Applications)
 - ★ SOP 1-115 (TNI Newsletter Preparation and Distribution)
 - ★ SOP 1-118 (Development of Position Statements)
 - ★ SOP 2-102 (CSDP EC Procedure for Addressing Conflicts of Interest)
 - ★ SOP 3-102 (Evaluation of Accreditation Bodies)
 - ★ SOP 7-100 (Evaluation of Non-Governmental Accreditation Bodies (NGAB) for Accrediting Environmental Laboratories under Recognition by The NELAC Institute (TNI))
 - ★ SOP 7-101 (TNI Accreditation Body Evaluation and Recognition Procedure used by the PT Program Executive Committee and NEFAP Executive Committee)
- ◆ Finalized all internal audit checklists.



1.0 ADMINISTRATION cont.

2023 Objectives

- Continue to Review SOPs and Policies.
- Begin Maintaining Glossary.
- Ensure all committees complete an internal audit and summarize the findings.

1.5 Training Committee

The Training Committee develops and maintains a comprehensive training plan for TNI.

2022 Accomplishments

- Increased Social Media Presence by creating LinkedIn Page for TNI.
- Developed RFPs and course descriptions for 13 classes.
- Developed periodic Training Newsletter with new courses.
- Reviewed 12 older courses and provided updated information as needed in the course description.
- Reviewed Competency Task Force material and provided comments and suggestions.
- Initiated work on a Training Catalogue and a consistent template for all course descriptions.

New Training Courses (Webinars) for 2022

- Environmental Laboratory Assessments - Basic Assessor Training (Marlene Moore)
- Essential Wastewater Analyses Series (Mary Johnson)
- Applying Data Integrity to Field Activities (Silky Labie)
- Analyst Competency Beyond the Demonstration of Capability (Tony Francis)
- Managing Laboratory Support Equipment - Calibration, Verification and Maintenance (Tony Francis)
- Handling Samples and Sample Integrity (Tony Francis)
- Managing your Proficiency Testing Program (Tony Francis)
- Choosing the Right Analytical Protocol (Jerry Parr, Judy Morgan, Kirstin Daigle)



1.0 ADMINISTRATION cont.

Attendees in 2022

- Webinars: 285 individuals and 16 groups of 5-10
- Recorded Webcasts: 282 individuals and 28 groups 5-10

2023 Objectives

- Continue Linked-In presence.
- Post Webcast for how to complete training application to teach courses.
- Work with vendors to develop technical course training opportunities.
- Complete Training Course SOP (1-128) and then update training course descriptions to be consistent and to include applicable digital badges.
- Complete Training Catalogue.
- Expand use of technology to administer, automatically grade tests, and provide certificates.
- Work with Competency Task Force to develop Credentialing Program.
- Prepare SOP for developing exams.
- Look for opportunities to collaborate with other training providers.
- Continue to develop RFPs for training courses such as:
 - Managing the Accreditation Process: Laboratories
 - Customer Service: It is More than Reporting Results
 - Policies and Procedures Needed for a NELAP Laboratory
 - Quality Control for Field Activities
 - Method Selection, Validation and Demonstration of Capabilities (for each Module)
 - Risk Based Assessment Principles - ISO/IEC 17011
 - Managing a Data Integrity Investigation



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM

2.1 CSDP Executive Committee

The mission of this committee is to guide the Consensus Standards Development process in the development and maintenance of standards. The CSDP EC, through representation from expert committees for each Module/Volume of the TNI Standards, ensures necessary, relevant, and timely development and/or changes to the Standards.

It is the role of the CSDP EC to:

- ◆ Receive and respond to stakeholder requests for improvement and/or development of the Standards.
- ◆ Ensure that changes are made in a timely and implementable fashion by working with Stakeholders, other TNI executive committees, and the NELAP Accreditation Council.
- ◆ Ensure that conflicts do not exist within the various Volumes and Modules of the Standards.
- ◆ Ensure that Standards Development is done in conformance with TNI SOPs on committee operations and standards development and ANSI requirements.

2022 Accomplishments

- All Volumes and Modules of the TNI Standard are currently under review. The EC approved SOP 2-102 (Conflict of Interest) and has finalized changes to SOP 2-101 (Committee Operations) to include voting requirements. Policies 2-100 and 2-101 were approved by the CSDP EC and moved to the Policy committee for final approval. SOP 2-100 continues to undergo review but is anticipated to be presented for approval in January, 2023. Internal Audits continue to be delayed due to Policy committee scheduling.
- All internal and public information for each Volume and/or Module of the Standard is being completed consistent with SOP and ANSI requirements.
- A Project Initiation Notification System (PINS) form was submitted to ANSI for Chemistry and a Board of Standards Review (BSR) form was filed to ANSI for Radiochemistry and Microbiology.
- Based on a decision by EPA to not allow the program to continue with only a single provider, the Stationary Source Audit Sample committee was dissolved.
- Table 2 below summarizes the status of all standards development at the end of 2021.

2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

Table 2. Status of Standards Development – 12/31/2022

Volume/Module	Subject	Status
Environmental Laboratory Standards		
Requirements for Laboratories		
VIM1	Proficiency Testing	Notice of Intent to modify the module approved. Work Groups formed to address various sections of the module for committee review and approval.
VIM2	Quality Systems	Workgroups on 17025 Crosswalk, Definitions, and 'Language Update'. Language Update has tackled the more difficult sections of the Module in a smaller setting. Existing TNI 2016 language has been placed into ISO17025:2017. ISO17025:2005 was reviewed for any language worth being retained. Working with Chemistry, Asbestos, Microbiology, Radiochemistry, Whole Effluent Toxicity Expert Committees to finalize language for Technical Specialist. A Draft Standard for posting should be completed by end of 2023/early 2024.
VIM3	Asbestos	No persuasive comments were received on the second draft Standard that was posted in April 2022. Notifications and Public Comments sought as module moves toward final approval.
VIM4	Chemistry	Notice of Intent to modify the module approved. Work Groups have been working on revisions to DOC, LOD/LOQ and calibration sections of Module 4. These are now being brought before the committee as a whole.
VIM5	Microbiology	Committee is responding to comments and is debating one final issue regarding water quality testing requirements prior to finalizing their Revised Draft Standard. Module 5 will then be re-posted for comment by March 2023.
VIM6	Radiochemistry	Module 6 has been posted for comment. All comments received were ruled non-persuasive and a response was sent to the commenter The Response to Comment form has been submitted for posting.
VIM7	Whole Effluent Toxicity	Revision of Module 7 continues. One major section regarding DOC remains before being sent to the committee as a whole. A Draft Standard for posting should be completed by end of 2023/early 2024.

2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

Table 2. Status of Standards Development – 12/31/2022 cont.

Environmental Laboratory Standards cont.		
Requirements for Accreditation Bodies		
V2M1	Accreditation Body	Module 1 has been commented on, and comments have been judged by the committee. The committee is reviewing the Module 'in toto' prior to submitting a Draft Standard for review. This should be done by mid-2023.
V2M2	Proficiency Testing	Notice of Intent to modify the module approved. Work Group preparing proposed modifications to V2M2 and must ensure consistency with V1M1, V3 and V4.
V2M2	On-site Assessment	This module will be deleted when new Module 1 is finalized.
Requirements for PT Providers		
V3	PT Providers	Notice of Intent to modify the module approved. Work Group preparing proposed modifications to V2M2 and must ensure consistency with V1M1, V3 and V4.
Requirements for PT Provider Accreditors		
V4	PT Provider Accreditors	Notice of Intent to modify the module approved. Work Group preparing proposed modifications to V2M2 and must ensure consistency with V1M1, V3 and V4.
Field Sampling and Measurement Organization (FSM0) Requirements		
V1	FSM0 Requirements	Existing TNI 2014 language and comments from the public meeting have been placed into ISO/IEC 17025:2017 and the Committee is working on finalizing language. The goal is to post a DRAFT Standard for comment in early April 2023.
V2	Accreditation Body Requirements	Existing TNI 2014 language and comments from the public meeting, NEFAP ABs and NEFAP Evaluator, have been placed into ISO/IEC 17011:2017 and the Committee is working on finalizing language. The goal is to post a DRAFT Standard for comment in early April 2023.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

2023 Objectives

- Submit one of the revised Modules (including the entire Development Process) to ANSI to finalize TNI's re-accreditation.
- Continue to develop policies and procedures that guide standards development to ensure full compliance with all relevant TNI requirements for Expert Committee operations and standards development.
- Continue the Standards revision process, including assuring a 'big picture' review prior to any Module becoming final.
- Determine the need for a creation of Committee focused on Consumables.
- Ensure consistency and uniformity between Volumes and Modules of the Standard.
- Provide technical and administrative assistance in developing tools to facilitate the implementation of the Standard.
- Provide opportunities for stakeholder involvement throughout the development process and assist Expert Committees in dissemination of pertinent information and responses to comments.

2.2 Asbestos Committee

The mission of this committee is to develop and maintain consensus standards for asbestos testing that support TNI programs and that address the following elements of an asbestos testing program:

- ◆ Roles and responsibilities of program participants,
- ◆ Method selection and validation,
- ◆ Technical requirements, and
- ◆ Quality assurance and data acceptance criteria.

2022 Accomplishments

- The Committee prepared a second draft of their Standard for publication and comment.
- The Standard was completely rewritten to be technology based for improved clarity and ease of use by laboratories.

2023 Objectives

- Respond to comments on Draft Standard and finalize Module 3.
- Seek American National Standard status from ANSI.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

- Continue to develop and maintain consensus standards for asbestos testing (AT) that are practical, implementable, and meet the needs of the environmental testing community while providing reliable data.
- Serve as a technical resource regarding AT to TNI members and other interested parties.
- Provide technical assistance in developing tools to facilitate the implementation of the Standard.

2.3 Chemistry Committee

The mission of this committee is to develop and maintain standards that improve and ensure the technical quality of environmental chemical testing data. It is important that a balance between impact on laboratories and improvement in technical quality be maintained during this process.

2022 Accomplishments

- Published Notice of Intent to modify Module 4.
- Responded to numerous SIR.
- Module/section specific work groups established for calibration, demonstration of capabilities, validation/verification, and QC.

2023 Objectives

- Begin revisions to VIM4.
- Continue to contribute to resolution of the Technical Specialist issue.
- Provide technical assistance in developing tools to facilitate the implementation of the Standard.

2.4 Laboratory Accreditation Body Committee

As a means to improve the quality and consistency of environmental data throughout the United States and to foster the mutual recognition of laboratory accreditation by Accreditation Bodies, the mission of the Laboratory Accreditation Body (LAB) Expert Committee is to develop and support accreditation standards for environmental testing accreditation bodies by engaging experts in a consensus-based standards development process.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

2022 Accomplishments

- Review of all comments on the Draft Standard was completed, with major issues approaching resolution and some additional comments from a full module review for potential issues considered.
- Gathered input from conference attendees and NELAP AC about multiple issues, including:
 - * Internal Audits,
 - * Remote Assessments,
 - * Accreditation information available “without request” and to rely on LAMS instead, and
 - * Assessor training.

2023 Objectives

- Publish Draft Standard V2M1, Revision 1.
 - * Discuss and rule on any comments as Persuasive or Non-persuasive.
- If controversies identified, publish Revision 2 of Draft Standard and receive/review comments again.
- Committee vote for Final Standard.
- Review and update Technical Review Checklist as needed based on changes to standard.
- Provide information on developing and recommending training and guidance materials as appropriate.

2.5 Microbiology Committee

The mission of this committee is to maintain the Microbiology Standard (TNI Volume 1, Module 5) based on input from stakeholder groups and the public; to provide technical assistance, support and training on issues related to microbiology and the TNI standard; and, to develop tools to facilitate the implementation of TNI Microbiology Standard.

2022 Accomplishments

- Worked on Response to Comments for the Draft Module V1M5.
- Developed a series of 5 “Understanding Microbiology” courses to be given in 2023.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

- Sent response to SIR regarding quality control checks to LASEC. Completed new responses to SIRs regarding positive and negative culture controls and sent them to back to LASEC.
- Supported Quality Management System's efforts to finalize language for Technical Specialist.

2023 Objectives

- Complete Volume 1 Module 5 update.
- Provide "Understanding Microbiology" Webinar courses.
- Prepare Implementation Guidance regarding Incubator Equilibrium checks.
- Continue to support Quality Management System's efforts to finalize language for Technical Specialist.

2.6 Proficiency Testing Committee

The mission of this committee is to develop and maintain consensus standards for proficiency testing (PT) that support TNI programs and that address the following elements of a proficiency testing program:

- Roles and responsibilities of program participants.
- Manufacturing, validation, and verification of PT samples.
- Accreditation and oversight of PT Providers.
- Management and evaluation of PT sample data by Accreditation Bodies (ABs), PT Providers (PTPs), PT Provider Accreditors (PTPAs) and the Proficiency Testing Program Executive Committee (PTPEC).
- Use of PT samples to support environmental laboratory accreditation.

2022 Accomplishments

- The second revision of the modified V1M1 was approved by committee and posted on the TNI website. One non-substantive editorial comment was addressed.
- Volume specific work groups established.
- Review of existing Volumes and Modules complete and modification for each being developed by work groups. Work groups continuing in efforts to develop modifications to PTEC related Volumes and Modules.
- All SIRs were addressed.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

2023 Objectives

- Complete Workgroup review and move to full committee.
- Prepare revised Draft Standards: V1M1, V2M2, V3, and V4.
- Serve as a technical resource to TNI membership and the environmental testing community regarding PT performance.

2.7 Quality Management Systems Committee

The mission of this committee is to maintain environmental laboratory quality management systems standards (TNI Volume 1, Module 2) based on stakeholder input, to provide technical assistance on issues related to adopted standards, and to develop tools that facilitate the implementation of the standard.

2022 Accomplishments

- Continued review of 17025 Crosswalk to incorporate language into the V1M2 Draft Standard based on ISO/IEC 17025:2017
- Drafter language to include in V1M2 from ISO 17011:2017 that contains laboratory requirements that previously were only in Volume 2.
- Workgroups formed to start working on specific topics:
 - * Definitions: Annually, quarterly, customer, procedure, and corrective action.
 - * Clarify differences between analytical/technical and support/QMS documents. Simplify method SOP requirements.
 - * Evaluate use of word “unique” in sample identification.
 - * Clarify what is meant by “undue delay.”
 - * Review record retention requirement of last “entry” versus “last use.”
- Completed SIRs on container unique identifier and expiration date, what are technical operations of the laboratory, and record requirements for documenting steps in tests.
- Worked with Expert Committees on Technical Specialist language.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

2023 Objectives

- Complete Volume 1 Module 2 Draft Standard.
- Continue working through controversial topics:
 - * Technical Specialist,
 - * Internal Audits,
 - * Document/Record Retention,
 - * Quality Manual,
 - * Define "Appropriate QC" in Section 7.7 (ISO/IEC 17025:2017),
 - * Consistent use of Procedure and Policy, and
 - * Clarification of unique ID.
- Work on language from Section 4.2 from ISO/IEC 17011:2017. Laboratory requirements related to the agreement with the AB and the laboratory are included in this section and may be added to Module 2.

2.8 Radiochemistry Committee

The mission of this committee is to maintain the Radiochemistry Standard (TNI Volume 1, Module 6) based on input from stakeholder groups and public; provide technical assistance, support, and training on issues related to radiochemistry and the TNI Standard; and develop tools that facilitate implementation of the TNI Standard.

2022 Accomplishments

- Completed VIM6 update.
- Presented proposal to PT Committee regarding reporting uncertainty with PT results.
- All SIRs were addressed.
- Supported Quality Management System's efforts to finalize language for Technical Specialist.

2023 Objectives

- Resolve reporting uncertainty with PT results.
- Explore options for FoPT tables for non-DW matrices.
- Continue to support Quality Management System's efforts to finalize language for Technical Specialist.
- Evaluate need for training development.



2.0 CONSENSUS STANDARDS DEVELOPMENT PROGRAM cont.

2.9 Whole Effluent Toxicity (WET) Committee

The mission of this committee is to update and maintain the whole effluent toxicity (WET) testing Standard (Volume 1, Module 7) based upon public comment, provide technical assistance on issues related to whole effluent toxicity, develop tools to aid implementation, and facilitate the implementation of the Standard.

2022 Accomplishments

- Resolved updated concept for individual analyst DOC and drafted new language for the DOC section of V1M7.
- Updated language for additional sections of the revised V1M7.
- Helped PTPEC form a new WET FoPT Subcommittee to address needed improvements for WET PT data comparability and to standardize PT analyses.

2023 Objectives

- Complete review and revision of updated language for each section of revised V1M7 and publish Draft Standard V1M7 for comment.
- Working with PTPEC, establish path to achieve data comparability for WET PT data.
- Provide input as needed for QC Specialist badge for aquatic toxicity, in support of credentialing initiative.



3.0 NEFAP REPORT

3.1 NEFAP Executive Committee

The mission of the NEFAP Executive Committee (EC) is to oversee a national program for the accreditation of field sampling and measurement organizations (FSMO).

2022 Accomplishments

- Continued implementation of NEFAP strategic and marketing plans.
 - * Linked-in Updates
 - * Podcast Creation – NEFAP Accreditation
 - * Panel and Presentation at FSEA in May and October
 - * Outreach to regulators on NEFAP
- Internal Audit course developed for Spring 2023.
- Provided updates on Strategic Plan to TNI Board of Directors and fin-tuned metrics.
- Worked on NEFAP AB Evaluations.
- Initiated changes to Nomination SOP and General SOP.

2023 Objectives

- Support Standard revision process by providing comments and suggested changes to improve the TNI Field Activities Standards.
- Complete NEFAP AB re-evaluation process.
- Continue to develop training courses.
- Update policies, procedure and charter to reflect any changes in NEFAP.
- Aggressively market the Program utilizing the strategies outlined in the strategic plan.
 - * Hold a virtual Sampling Conclave.
 - * Continue to present at outside conferences.
 - * Market the new TNI NEFAP standard once completed.
 - * Submit comments to the Quality Management Systems Expert Committee on the use of NEFAP.
- Generate more awareness of the program and drive growth and interest in participation.



3.0 NEFAP REPORT cont.

3.2 Field Activities Expert Committee (FAC)

The mission of the TNI Field Activities Committee (FAC) is to develop standards for accrediting bodies and field sampling and measurement organizations. The FAC will engage experts to develop consensus-based standards with the goal of improving the consistency of field methods and the quality of environmental data.

2022 Accomplishments

- Conducted public webinar to get feedback on proposed AB standard (Volume 2).
- Continued incorporating comments from the public webinar and language from the 2014 Volume 1 Standard into ISO/IEC 17025: 2017 language.
- Incorporated “value added” language to Volume 1.
- Continued incorporating comments from the public webinar and language from the 2014 Volume 2 Standard into ISO/IEC 17011: 2017 language.

2023 Objectives

- Complete draft Voting Standards for Volumes 1 and 2.
- Assist NEFAP Executive Committee in planning of Sampling Conclave in Spring 2023.
- Discuss Addition of media-specific Field Sampling Modules to Volume 1 of the new Standard.
- Respond to SIRs as necessary.



4.0 NELAP REPORT

The NELAP Accreditation Council (AC) has final authority for implementation of the program for the accreditation of environmental laboratories within the National Environmental Laboratory Accreditation Program. The NELAP AC facilitates a national program through mutual recognition.

The Laboratory Accreditation System Executive Committee (LASEC) assists in TNI's efforts in supporting a national program for the accreditation of environmental laboratories by supporting the NELAP Accreditation Bodies (ABs) and non-governmental ABs (NGABs) recognized to accredit to the TNI Environmental Laboratory Sector (ELS) Standard, enabling stakeholders such as laboratories, proficiency testing providers and data users to effectively participate in the development of, adoption and implementation of, and compliance with the TNI standards.

4.1 Accreditation Council

2022 Accomplishments

- Implemented the 2016 Standard – 2 additional states have fully implemented for total of 11 (rolling implementation with ongoing mutual recognition).
- Continued review of SIRs for potential implementation issues.
- Provided feedback to Expert Committees during Standards development.
 - * Laboratory Accreditation Body Expert Committee about substantive issues for V2M1 revision
 - * Quality Management Systems Expert Committee about Technical Specialist requirements and qualifications
- Investigated whether TNI should provide translations of Standards as an environmental justice activity along with Advocacy and the TNI Board and determined this is not advisable or necessary, per several states. Some states offer other materials in additional languages.
- Sustained operations during transition away from pandemic emergency, back to new normal operations.
- Sustained its governance role for the National Environmental Laboratory Accreditation Program.

4.0 NELAP REPORT cont.

Table 3. Implementation Status for the 2016 TNI ELS Standard

State	Process for Implementing the New Standard	Anticipated Implementation Date
FL	FL adopted the TNI 2016 Standards by regulation on September 26, 2018. Laboratories were granted a grace period until April 1, 2019, to implement the new standards.	April 1, 2019
IL	Full implementation on January 31, 2020	January 31, 2020
KS	Rulemaking underway, but slowly. Is allowing labs to upgrade now and is assessing to 2016 Standard even though 2003 NELAC standard is still the official version	Unknown
LA	Implemented in August 2022 and is transitioning now.	August 2022
MN	Adopts by statute, and is updating its databases now.	January 2021
NH	Regulation finalized on November 23, 2021	March 1, 2022
NJ	Incorporated into regulation by reference	January 31, 2020
NY	Adopts by reference.	January 31, 2020
OK	Proposed rule published 12/1/2021 to adopt 2016 TNI EL Standard	September 15, 2022
OR	Implemented 2016 Standard effective January 1, 2021	January 1, 2021
PA	Incorporated into regulation by reference.	January 31, 2020
TX	Incorporated into regulation by reference.	January 31, 2020
UT	Rulemaking complete.	June 11, 2021
VA	Rulemaking complete.	November 1, 2022

2023 Objectives

- Sustain governance role for the program and promoting consistency in AB operations.
- Review and comment on V2M1 Draft Standard Revision 1.
- Review and comment on other revised modules of the TNI ELS Standard (Volume 1) as the Expert Committees publish Draft Standards.
- Address issues of concern to NELAP ABs as they arise.
- Complete current evaluations and initiate 2023–2026 Evaluation Cycle.

4.0 NELAP REPORT cont.

4.2 Laboratory Accreditation Systems Executive Committee (LASEC)

2022 Accomplishments

- Substantially revised the SIR Management (SOP 3-105) and Implementation Guidance (SOP 3-114) processes.
- Provided Mentor Session and Assessment Forum programs for Forum on Laboratory Accreditation, San Antonio, January 2022, and Environmental Measurement Symposium, Arlington (Crystal City), VA, August 2022.
- Provided comment on Notice of Intent to Revise the Chemistry module, VIM4.
- Reviewed Asbestos (VIM3) and Radiochemistry (VIM6) draft Standards and provided recommendations to NELAP AC.
- Responded to 14 Standard Interpretation Requests

Table 4. Standard Interpretation Requests Finalized in 2022

SIR#	Section	Topic	Date
392	VIM2, 5.5.8	Calibration Labeling Requirements	1/10/2022
378	VIM2, 5.5.13.1	Calibration Frequency of Reference Thermometers	1/10/2022
416	VIM2, 5.6.4.2 (c)	Records for Standards, Reference Materials, and Reagent Preparation	1/10/2022
398	VIM4, 1.7.1.1	Minimum Number of Calibration Standards	1/10/2022
414	VIM5, 1.6.4.2 (e)	Ongoing Demonstration of Capability Requirements	7/29/2022
403	VIM6, 1.7.2.1	Radiation Measurement Batches (RMBs)	7/29/2022

2023 Objectives

- Sustain SIR progress and supplement SIRs with Implementation Guidance for non-SIR questions.
- Review Draft Standards as they are developed.
- Continue to provide Mentor Sessions and Assessment Forums at TNI conferences.
- Assume Role as Recognition Body for NGAB status (parallel to NEFAP and PTPEC recognitions)
- Develop Draft Policies and SOPs for NELAP as requested.



5.0 PROFICIENCY TESTING PROGRAM REPORT

The purpose of the Proficiency Testing Program Executive Committee (PTPEC) is to establish and maintain certain elements of a national PT Program to support TNI's Accreditation Programs and other TNI activities. Those elements include:

- Fields of Proficiency Testing (FoPT) tables, consisting of analytes, concentrations, matrices, and acceptance limits, that are appropriate for the scope of environmental monitoring performed in the United States.
- A listing of PT Provider Accreditors (PTPAs) that are TNI recognized.
- A list of organizations that are accredited by TNI recognized PTPAs as competent to provide PT samples to laboratories.

2022 Accomplishments

- Reconvened and developed Scopes of Work for WET and Chemistry FoPT Subcommittees.
- Revised Radiochemistry Drinking Water FoPT Table.
- Continued work on PFAS Drinking Water application.
- Completed DRAFT of SOP 4-101: Recommendation, Evaluation, and Calculation of Acceptance Criteria and Applicable Concentration Ranges for Proficiency Tests
- Worked on updating SOP 4-107: FoPT Table Management
- Updated Evaluation SOP
- Completed PTPA Checklist in preparation for evaluations in 2023.

2023 Objectives

- Work with the WET FoPT Subcommittee to develop recommendations to resolve problems with variability of testing conditions.
- Conduct 2023 Proficiency Testing Provider Accreditor (PTPA) evaluations.
- Continue working to resolve reporting of uncertainty with Radiochemistry PT results.
- Finalize process of updating FoPTs through completion of SOP 4-101 and 4-107.
- Continue working to be inclusive of non-TNI ABs.
- Support the NELAP AC in resolving method codes in LAMS.
- Develop FoPTs for PFAS in Drinking Water.
- Complete and gather information on PT Program metrics.



6.0 TASK FORCES AND OTHER ACTIVITIES

6.1 Competency Task Force

2022 Accomplishments

- Completed proposed updated qualifications and experience requirements for former Technical Manager role, handed finalization to Quality Management Systems Expert Committee.
- Completed draft proposal for TNI Credentialing Initiative, to begin with digital badges for Quality Manager functions, followed by Certified Professional credentialing.
- Reviewed KSAs for QM functions and identified relevant training courses.
- Proposed a scheme of 12 functions as digital badges.
- Developed content for special session on this topic for the 2023 winter Forum presenting tentative implementation plans to the broader TNI community.

2023 Objectives

- Support Executive Director in implementing first Credentialing Initiative.
- Select next roles for potential credentialing.
- Transition Task Force to a Committee.

6.2 Consumables Task Force

2022 Accomplishments

- Determined applicability of critical supplies and service to quality of laboratory services
- Defined the term “critical.”
- Classified supplies and services as to potential impacts on quality.
- Established initial spreadsheet for criteria development.
- Developed requirements for product certificates following ISO Guide 31.
- Initiated a “Decision Tree.”

2023 Objectives

- Finalize the decision tree and certificates documents.
- Test the guidance with selected stakeholder groups.
- Develop implementation tools for laboratories.
- Prepare guidance document and/or standards module.

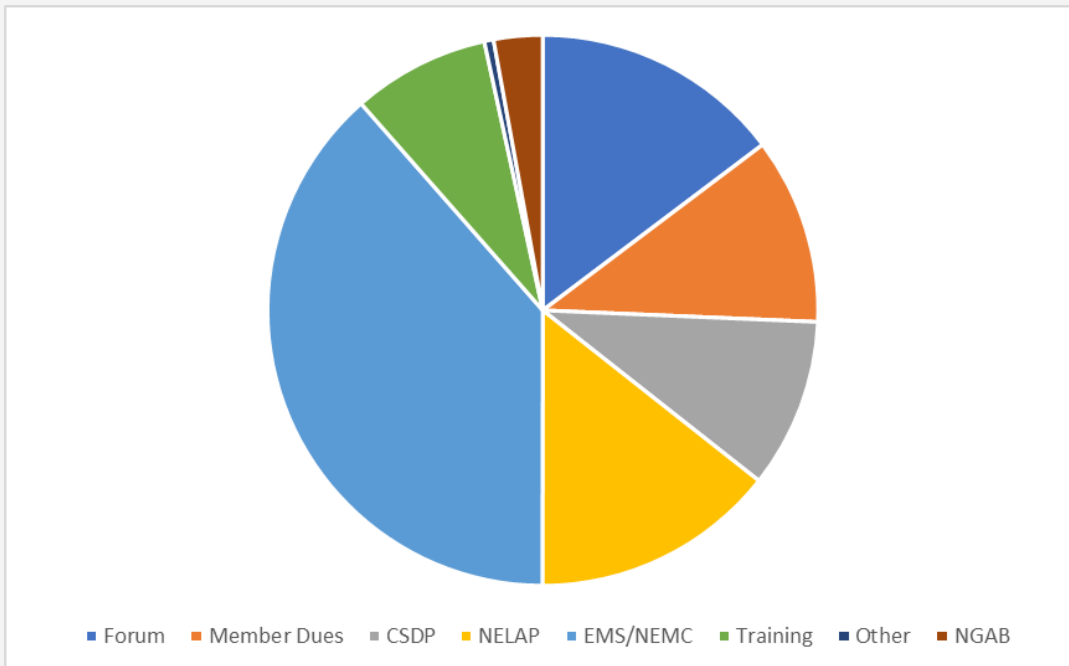
6.0 Task Forces and Other Activities cont.

6.3 Membership Report

- Active Members, January 1, 2022 1175
- Active Members, December 31, 2022 1192
- Number of Committee Applications 39

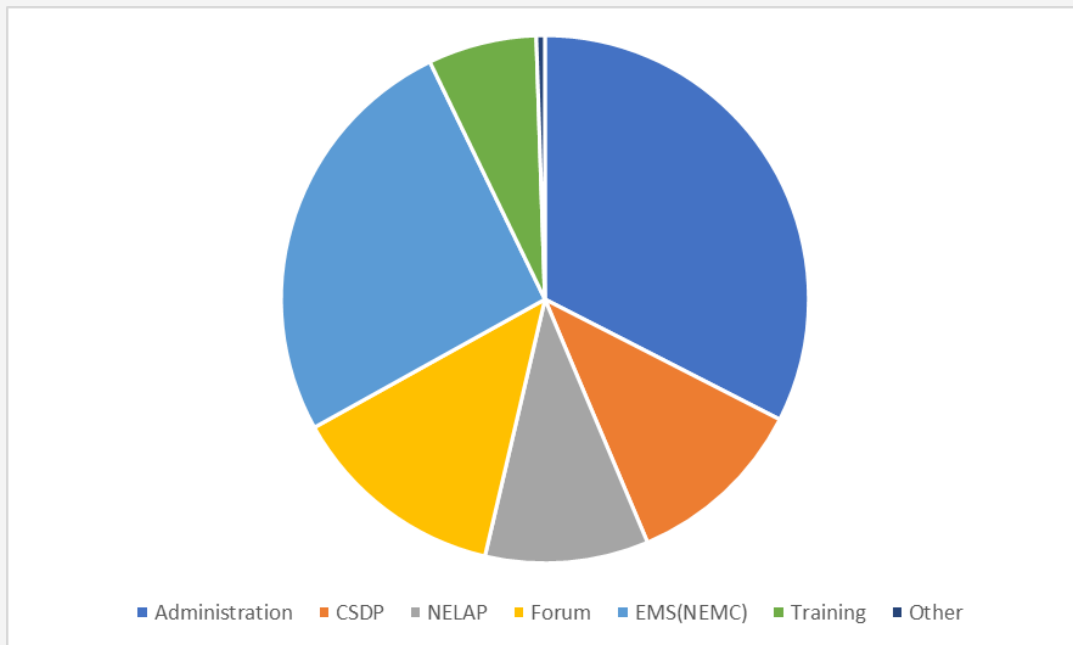
6.4 Statement of Activities

Figure 1. Income: \$1,094,667



6.0 Task Forces and Other Activities cont.

Figure 2. Expense: \$1,086,906



APPENDIX 1. TNI COMMITTEE ROSTERS — 2022

TNI Board of Directors

Jordan	Adelson	US Navy NAVSEA Programs Field Office
Aaren	Alger	Alger Consulting & Technology
Steve	Arms	Florida DOH (retired)
Caitlin	Brice	SGS North America
Kristin	Brown	Utah DOH
Justin	Brown	Environmental Monitoring and Technologies
Robin	Cook	City of Daytona Beach
Stacie	Crandall	Hampton Roads Sanitation District
Jack	Farrell	Analytical Excellence, Inc.
Maria	Friedman	California State Water Resources Control Board
Myron	Gunsalus	Kansas DHE
Jessica	Jensen	KC Water
Harold	Longbaugh	City of Houston Drinking Water Operations
Sharon	Mertens	Milwaukee Metropolitan Sewerage District
Judy	Morgan	Pace Analytical
Patsy	Root	IDEXX Laboratories
Debbie	Rosano	Dept of Energy
Valerie	Slaven	Pace Analytical
Nick	Slawson	A2LA
Alfredo	Sotomayor	Milwaukee Metropolitan Sewerage District
Lem	Walker	USEPA OW OST

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Advocacy Committee

Steve Arms, Chair; Lynn Bradley, Program Administrator

Steve	Arms	Florida DOH (retired)
Teresa	Coins	US Army Pine Bluff Arsenal
Robin	Cook	City of Daytona Beach EML
Stacie	Crandall	Hampton Roads Sanitation District
Zonetta	English	Louisville Jefferson Co., MSD
William	Lipps	Shimadzu
Sharon	Mertens	Milwaukee Metropolitan Sewerage District
Marlene	Moore	Advanced Systems, Inc.
Trinity	O'Neal	City of Austin Water Utility
Janice	Willey	NAVSEA LQAO
Josh	Wyeth	Phenova

Asbestos Committee

Michelle McGowan, Chair; Bob Wyeth, Program Administrator

Zonetta	English	Louisville Jefferson Co., MSD
Maria	Friedman	California ELAP
Myron	Getman	NY State DOH
Glen	Green	Xcel Energy
Robert	Hecker	New York State DOH
Michelle	McGowan	EMSL Analytical Inc.
Greg	Raspanti	New Jersey DEP
Dan	Shelby	EMLab P&K

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Chemistry Committee

Michelle Wade, Chair; Bob Wyeth, Program Administrator

Jay	Armstrong	Virginia Dept. of General Services
Paula	Blaze	New Jersey DEP
Ali	Boren	State of Vermont
Calista	Daigle	AAA Laboratories
Tony	Francis	Saw Environmental
Karna	Holquist	TCEQ
Joe	Manzella	Orange County Sanitation District
Anand	Mudambi	USEPA
Charles	Neslund	Eurofins Lancaster Environmental
Max	Patterson	Utah Dept. of Health
Chad	Stoike	ALS Environmental
Michelle	Wade	A2LA Workplace Training
Lee	Wolf	Wolf Pacific Consulting

Competency Task Group

Ken Brown, City of Escondido; Lynn Bradley, Program Administrator

Paul	Banfer	EISC
Kenneth	Brown	City of Escondido
Julia	Caprio	Geosyntec
Patricia	Carvajal	San Antonio River Authority
Steve	Drielak	Drielak & Associates
Amanda	Dutko	Fairway Laboratories
Stacey	Fry	Babcock Laboratories
Harold	Longbaugh	City of Houston
Scott	Siders	Retired
Joann	Slavin	New York State DOH
Alfredo	Sotomayor	Milwaukee Metropolitan Sewerage District
Elizabeth	Turner	Pace Analytical Services, LLC.

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Consumables Task Group

Judy Morgan, Chair; Bob Wyeth, Program Administrator

Robert	Benz	Clinisys
Mike	Booth	Inorganic Ventures
Kathryn	Chang	Eurofins CalScience
Eric	Davis	Clinisys
Jack	Farrell	Analytical Excellence, Inc.
Andy	Hata	JMR Environmental Services
Shawn	Kassner	Kaycha Labs
William	Lipps	Shimadzu Scientific Instruments, Inc.
Tami	Minigh	City of Daytona Beach
Judy	Morgan	Pace Analytical Services, LLC.
Amy	Pollard	PamCo Tech
Sarah	Purtell	Suburban Laboratories
Patsy	Root	IDEXX Laboratories, Inc.
David	Smith	Environmental Express

Consensus Standards Development Executive Committee

Paul Junio, Chair; Bob Wyeth, Program Administrator

Aaron	Alger	Alger Consulting and Training, LLC
Debbie	Bond	Alabama Power
Robin	Cook	City of Daytona Beach EML
Kirstin	Daigle	Pace Analytical Services, LLC
Cody	Danielson	Oklahoma DEQ
Scott	Haas	Environmental Testing, Inc.
Kevin	Holbrooks	JEA
Paul	Junio	Pace Analytical Services
Michelle	McGowan	EMSL Analytical Inc.
Rami	Naddy	TRE Env. Strat. LLC
Terry	Romanko	Eurofins Environment Testing America
Michelle	Wade	A2LA Workplace Training
Cathy	Westerman	Virginia DCLS



APPENDIX 1. TNI Committee Rosters – 2022 cont.

Field Activities Committee

Scott Haas, Chair; Ilona Taunton, Program Administrator

Doug	Berg	Perry Johnson Laboratory Accreditation, Inc.
Jack	Denby	HRSD
David	Fricker	A2LA
Lily	Giles	Louisiana DEQ
Bill	Guyton	ERM-West, Inc.
Scott	Haas	Environmental Testing, Inc.
Marlene	Moore	Advanced Systems, Inc.
Bill	Ray	William Ray Consulting LLC
Patrick	Selig	ANAB
Tyler	Sullens	Alabama Power Company
Shannon	Swantek	Enlightened Quality
Adam	Szafran	Environmental Monitoring & Technologies
Hong	Yu	Chevron Environmental Laboratory

Finance Committee

Justin Brown, Chair

Justin	Brown	Environmental Monitoring & Technology
Shawn	Kassner	Kaycha Laboratories
Sharon	Mertens	Milwaukee Metropolitan Sewerage District
Jerry	Parr	The NELAC Institute
Alfredo	Sotomayor	Milwaukee Metropolitan Sewerage District

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Information Technology Committee

Mei Beth Shepherd, Chair; Janice Wlodarski, Program Administrator

William	Daystrom	The NELAC Institute
Nick	Evans	JEA
Maria	Friedman	California State Water Resources Control Board
Dan	Hickman	The NELAC Institute
Jerry	Parr	The NELAC Institute
Carissa	Robertson	Kansas DHE
Mei Beth	Shepherd	Shepherd Technical Services
Keith	Ward	Phenova

Laboratory Accreditation Body Committee

Aaren Alger, Chair; Lynn Bradley, Program Administrator

Aaren	Alger	Alger Consulting & Training
Socorro	Baldonado	Metropolitan Water District of Southern California
Nilda	Cox	Eurofins Eaton analytical
Yumi	Creason	PA-DEP - Laboratory Accreditation Program
Bill	Hall	NHDES / NH ELAP
Sviatlana	Haubner	Cincinnati Metropolitan Sewer District
Michella	Karapondo	EPA OGWDW TSC
Michael	Perry	Southern Nevada Water Authority
Zaneta	Popovska	ANAB

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Laboratory Accreditation Systems Executive Committee Maria Friedman, Chair; Lynn Bradley, Program Administrator

Aaren	Alger	Alger Consulting & Training
Patricia	Carvajal	San Antonio River Authority
Stacie	Crandall	Hampton Roads Sanitation District
Mike	Delaney	MWRA - Retired
Jack	Farrell	Analytical Excellence
Maria	Friedman	California State Water Resources Control Board
Bill	Hall	New Hampshire ELAP
Brian	Hulme	EPA
Silky	Labie	Environmental Laboratory Consulting and Technologies, LLC
Harold	Longbaugh	Wastewater Operations Laboratory, City of Houston
Louise	McGinley	Texas Comm. on Env. Quality
Shari	Pfalmer	Pace Analytical, LLC
Michele	Potter	New Jersey DEP

Microbiology Committee Cody Danielson, Chair; Ilona Taunton, Program Administrator

Hunter	Adams	City of Wichita Falls
Robin	Cook	City of Daytona Beach
Cody	Danielson	Oklahoma DEQ
Maria	Friedman	California ELAP
Jody	Frymire	IDEXX Laboratories
Matt	Graves	ERA
Amy	Hackman	PA DEP
Jessica	Hoch	Texas Comm. on Env. Quality
Ashely	Larssen	KC Water
Christabel	Monteiro	ESC Lab Sciences
Enoma	Omoriegie	NYCDEP, Water Distribution Laboratory
Robert	Royce	New Jersey DEP
Elisa	Snyder	City of Austin - Austin Water

APPENDIX 1. TNI Committee Rosters – 2022 cont.

NEFAP Executive Committee

Tracy Szerszen, Chair; Ilona Taunton, Program Administrator

Paul	Bergeron	Louisiana DEQ
Justin	Brown	Environmental Monitoring and Technologies
Jeremy	Driver	Alabama Power Company
David	Fricker	A2LA
Jacob	Gruzalski	Environmental Standards, Inc.
Pamela	Hamlett	US Air Force
Kevin	Holbrooks	JEA
Kelly	Krock	EPA
Ryan	Pangelinan	Oregon DEQ
Norman	Rodriguez-Iglesias	EPA Region III
Patrick	Selig	ANAB
Stephanie	Sparkman	CS Laboratories, Inc.
Katie	Strothman	Sanders
Tracy	Szerszen	Perry Johnson Laboratory Accreditation, Inc.
Elizabeth	Turner	Pace Analytical Services
Kim	Watson	Consultant

APPENDIX 1. TNI Committee Rosters – 2022 cont.

NELAP Accreditation Council

Kristin Brown, Chair; Lynn Bradley, Program Administrator

Travis	Bartholomew	Oregon State Public Health Laboratory
Annmarie	Beach	Pennsylvania DEP
Lynn	Boysen	Minnesota DOH
Kristin	Brown	Utah DOH
Steve	Gibson	Texas Comm. on Env. Quality
Carl	Kircher	Florida DOH
Brian	Lamarsh	New Hampshire ELAP
Ryan	Lerch	Oklahoma DEQ
Michele	Potter	New Jersey Dept of Environ Protect.
Tramecha	Rankins	Louisiana DEQ
Carissa	Robertson	Kansas DHE
Millie	Rose	Illinois EPA
Amy	Steuerwald	New York State Department of Health
Cathy	Westerman	Virginia Division of Consolidated Laboratory Services

Nominating Committee

Sharon Mertens, Chair

Catherine	Katsikis	LDCFL, Inc.
Sharon	Mertens	Milwaukee Metropolitan Sewerage District
Aurora	Shields	KC Water

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Policy Committee

Patsy Root, Chair; Ilona Taunton, Program Administrator

JoAnn	Boyd	Southwest Research Institute
Virginia	Hunsberger	Pennsylvania DEP
Paul	Junio	Pace Analytical Services
Silky	Labie	Env. Lab. Consulting & Technology, LLC
William	Lipps	Shimadzu
Jerry	Parr	The NELAC Institute
Patsy	Root	IDEXX Laboratories
Mei Beth	Shepherd	Shepherd Technical Services
Eric	Smith	
Elizabeth	Turner	Pace Analytical

PT Expert Committee

Kirstin Daigle, Chair; Bob Wyeth, Program Administrator

Thekkekalathil	Chandraasekhar	Florida DEP
Kirstin	Daigle	Pace Analytical Services
Mike	Delaney	MWRA Retired
Amy	DeMarco	New York State DOH
Rachel	Ellis	New Jersey DEP
Susan	Jackson	South Carolina DHEC
Reggie	Morgan	Hampton Roads Sanitation District
Ryan	Pangelinan	ORELAP
Danielle	Pearman	Phenova
Amy	Pollard	PamCo Tech
Patrick	Selig	ANSI National Accreditation Board (ANAB)
Brian	Stringer	ERA
Jim	Todaro	Alpha Analytical
Marie	Wu	Los Angeles County Sanitation Districts

APPENDIX 1. TNI Committee Rosters – 2022 cont.

PT Program Executive Committee

Stacie Crandall, Chair; Ilona Taunton, Program Administrator

Fred	Anderson	Advanced Analytical Solutions
Jennifer	Bordwell	Upper Occoquan Service Authority
Stacie	Crandall	Hampton Roads Sanitation District
Rachel	Ellis	New Jersey DEP
Scott	Haas	Environmental Testing, Inc.
Susan	Jackson	South Carolina DHEC
Shawn	Kassner	Kaycha Labs
Carl	Kircher	Florida DOH
Tim	Miller	Phenova
Prasanth	Ramakrishnan	International Accreditation Service (IAS)
Patrick	Selig	ANAB
Eric	Smith	
Andy	Valkenberg	QASE Inc.

Quality Management Systems Committee

Kirstin Daigle, Chair; Bob Wyeth, Program Administrator

Stephanie	Atkins	Pace Analytical Services, LLC
Debbie	Bond	Alabama Power Company
Michael	Demarais	SVL Analytical, Inc.
Tony	Francis	SAW Environmental
Kathi	Gumpper	ChemVal Consulting
Earl	Hansen	The NELAC Institute
Ashely	Larssen	KC Water
Jenna	Majchrzak	New Jersey DEP
Carla	McCord	VA DCLS
Zaneta	Popovska	ANAB
Amber	Ross	Pennsylvania DEP
Amy	Schreader	UC Laboratory
Nicholas	Slawson	A2LA
Alyssa	Wingard	NAVSEA

APPENDIX 1. TNI Committee Rosters – 2022 cont.

Radiochemistry Committee

Terry Romanko, Chair; Ilona Taunton, Program Administrator

James	Chambers	Fluor-BWXT Portsmouth LLC
Sherry	Faye	NY DOH
Amanda	Fehr	GEL Laboratories, LLC
Patrick	Garrity	KY Dept. of Env. Protection
Mary Beth	Gustafson	Virginia DCLS
Velinda	Herbert	USEPA - National Analytical Environmental Laboratory
Brian	Miller	ERA (A Waters Company)
Greg	Raspanti	New Jersey DEP
Terry	Romanko	Eurofins Environment Testing America
Chrystal	Sheaff	Energy Laboratories, Inc.
Stan	Stevens	Perma-Fix Environmental Services, Inc

Training Committee

Calista Diagle, Chair; Ilona Taunton, Program Administrator

Mark	Alessandrini	Markay Consulting Group
Aaren	Alger	Alger Consulting & Technology
Derek	Chen	City of Sacramento Water Quality Lab
Calista	Daigle	AAA Laboratories
Jack	Farrell	Analytical Excellence, Inc.
David	Fricker	A2LA
Salima	Haniff	Bureau Veritas Laboratories
Catherine	Katsikis	LDCFL
Veronika	Kerdok	New York City DEP
Joe	Manzella	Orange County Sanitation District
Mitzi	Miller	NV5
Tami	Minigh	City of Daytona Beach
Jerry	Parr	The NELAC Institute
Dee	Shepperd	ddms, inc.
Jerry	Thao	Pace Analytical Services, LLC.



APPENDIX 1. TNI Committee Rosters – 2022 cont.

Whole Effluent Toxicity Committee

Rami Naddy, Chair; Lynn Bradley, Program Administrator

Beth	Biller	Virginia DCLS
Thekkekalathil	Chandrasekhar	Florida DEP
Stephen	Clark	Pacific EcoRisk
Natalie	Love	GEI Consultants
Ila	Meyer-Fritzsche	Virginia DCLS
Rami	Naddy	TRE Env. Strat. LLC
Teresa	Norberg-King	USEPA ORD NHEER (Retired)L
John	Overbey	American Interplex Corporation
Katie	Payne	Enthalpy Analytical
Caitie	Van Sciver	New Jersey DEP

APPENDIX 2. METHOD AND ANALYTE CODES — 2022

New Method Codes Added in 2022

Method Code	Method Reference	Revision	Revision Date	Method Title
10123429	EPA 1633 Draft		2021	Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS
60046017	PACE ENV-SOP-MIN4-0178	03	2021	Pace Analytical - Selected PFAS by LC/MS/MS Isotope Dilution
30035280	ASTM D8421-21		2021	Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Matrices by Co-solvation and (LC/MS/MS)
90021037	PWPCL SOP Organics-15.04	4	2018	Portland Water Pollution Control Laboratory - Chlorinated Herbicides in Water (EPA 515.4 SIM)
90019855	ORELAP SOP-002	4.2	2021	ORELAP - Protocol for Collecting Samples of Cannabinoid Concentrates, Extracts, Products, and Industrial Hemp Derived Vapor Items
60038304	SGS AXYS Method ATM 16130	N18-0003		SGS - 2,3,7,8-Substituted Tetra- through Octa-Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs/CDFs) Using Gas GC/MS/MS
20191280	SM 9221 B plus F	23 ED	2014	Multiple Tube Fermentation Qualitative (LTB): Total Coliform
50003491	AOAC 2018.11		2018	Quantitation of Cannabinoids in Cannabis Dried Plant Materials, Concentrates, Oils by HPLC/PDA
50003515	AOAC 2018.10		2018	Cannabinoid in Dried Flowers and Oil
50003537	AOAC 2021.03		2021	Heavy Metals in a Variety of Cannabis and Cannabis Derived Products by ICP/MS
60000513	Abraxis 52255B	1	2006	Saxitoxin (PSP) ELISA, Microtiter Plate
20211647	SM 9223 B (Colilert Quanti-Tray)-2016		2016	Chromogenic/Fluorogenic Quantitative (Colilert): Total Coliform and E. coli
20213632	SM 9223 B (Colilert-18 Quanti-Tray)-2016		2016	Enzyme Substrate Coliform Test (Colilert-18 Quanti-Tray)

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
90019866	ORELAP SOP-002		2022	ORELAP - Protocol for Collecting Samples of Cannabinoid Concentrates, Extracts, Products, and Industrial Hemp Derived Vapor Items
90019811	ORELAP SOP-001	03	2022	Protocol for Collecting Samples of Usable Marijuana
10212950	RSKSOP-175 (GC-FID)		2004	Sample Preparation and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique (GC-FID)
10212949	RSKSOP-175 (GC-ECD)	4	2004	Sample Preparation and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique (GC-ECD)
10212961	RSKSOP-175 (GC-TCD)	4.2	2004	Sample Preparation and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique (GC-TCD)
20210712	SM 4500-O C	N18-0003	2016	Dissolved Oxygen by Azide Modification
60001798	ALS LCMS-001-R00NJ	23 ED	2020	Per- and Polyfluoroalkyl Substances (PFAS) by HPLC/MS/MS
60001629	ALS HN-LCMS-001-R02		2021	Per- and Polyfluoroalkyl Substances (PFAS) by HPLC/MS/MS
10214478	EPA CEMS Performance Spec 11		2019	CEMS Performance Specification 11 - Particulate Matter
60000466	Abraxis 520060		2016	Anatoxin-a ELISA Microplate Method
90000423	DoD/DoE QSM 5.4 Table B-15	1	2021	DoD/DoE - PFAS using LC/MS/MS Isotope Dilution or IS Quantification
50000721	AOAC SMPR 2020.012		2020	Standard Method Performance Requirements for Detection of Shiga Toxin-producing Escherichia coli in Cannabis Products

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
30034561	ASTM D7979-20		2020	Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent and Wastewater by (LC/MS/MS)
60002655	BNO 5-370	13	2021	Battelle Analytical - Extraction of Poly & Perfluoroalkyl Substances from Environmental Matrices
60002611	BNO 5-369	9	2021	Battelle Analytical - Poly & Perfluoroalkyl Substances in Environmental Samples by HPLC/MS/MS
60033365	Tecta EC/TC	2.0	2017	P/A Method for the Simultaneous Detection of Total Coliforms and E. coli in Drinking Water
20196661	SM 9221 E plus EPA/625/R-92/013 Appendix F (A1)	23rd ED	2014	Multiple Tube Fermentation Quantitative (A1 medium): Fecal Coliform
20232046	SM 9260 D plus EPA/625/R-92/013 Appendix F	18th ED	1988	Membrane Filtration Quantitative: Salmonella
20208451	SM 9222 B plus I	23 rd ED	2014	Membrane Filter Technique for members of the Coliform Group - Standard Total Coliform Membrane Filter Procedure
20191291	SM 9221 B plus F	23rd ED	2014	Multiple Tube Fermentation Quantitative (LTB/EC MUG): E. Coli
20210064	SM 9222 D plus EPA 625/R-92/013 Appendix F	18th ED	1991	Membrane Filtration Quantitative (FC/NA MUG): E. Coli
20230642	SM 9223 B (Colisure Quanti-Tray)	23rd ED	2016	Enzyme Substrate Coliform Test (Colisure Quanti-Tray)
10088821	EPA 524.2 SIM	4.1	1995	Volatile Organic Compounds GC/MS SIM Capillary Column
20187046	SM 9221 B plus C	22nd ED	2006	Multiple Tube Fermentation Quantitative (LTB): Total Coliform
30020032	ASTM D4994-89 plus EPA 625/R-92/013 App H		1989	Plaque assay quantitative: Enteric Viruses

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
20196694	SM 9221 E plus EPA/625/R-92/013 Appendix F (EC)	23rd ED	2014	Multiple Tube Fermentation Quantitative (EC medium): Fecal Coliform
60039158	SGS AXYS MLA-908	1.4	2021	SGS AXYS - Polychlorinated Biphenyl (PCB) Congeners by GC/MS
20196683	SM 9221 E plus EPA/625/R-92/013 Appendix F (EC)	18th ED	1991	Multiple Tube Fermentation Quantitative (EC medium): Fecal Coliform
20196672	SM 9221 E plus EPA/625/R-92/013 Appendix F (A1)	18th ED	1991	Multiple Tube Fermentation Quantitative (A1 medium): Fecal Coliform
20190618	SM 9221 B plus F plus C	22nd ED	2006	Multiple Tube Fermentation Quantitative (LTB/EC MUG): E. Coli
60031121	Medicinal Genomics 420148	2	2021	PathoSEEK 5-Color Aspergillus Multiplex Assay with SenSATIVax Extraction
20060246	SM 3114 C	23rd ED	2011	Arsenic and Selenium by Continuous Hydride Generation/AAS
20105822	SM 4500-NH3 B	23rd ED	2011	Ammonia Nitrogen Distillation
90008030	DOE EML sec 4.5.2.3	28th ED	1997	Gamma Radioassay
20097829	SM 4500-CN ⁻ I	23rd ED	2016	Weak Acid Dissociable Cyanide
20097818	SM 4500-CN ⁻ I	22nd ED	2011	Weak Acid Dissociable Cyanide
20077821	SM 4500-B B	23rd ED	2011	Boron by Curcumin Method .
20072224	SM 3500-Mn B	23rd ED	2011	Manganese by Persulfate Method
20068820	SM 3500-Fe B	23rd ED	2011	Iron by Phenanthroline Method
20066039	SM 3500-CrB	23rd ED	2011	Chromium by Colorimetric Method
20062424	SM 3500Al B	23rd ED	2011	Aluminum by Eriochrome Cyanine R Method
20085023	SM 4500-Cl ⁻ C	23rd ED	2011	Chloride by Mercuric Nitrate Method

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
20088840	SM 4500-ClO ₂ D	23rd ED	2011	Chlorine Dioxide by DPD Method
20078222	SM 4500-Cl B	23rd ED	2011	Chlorine (Residual) by Iodometric Method I
20046622	SM 2340 C	23rd ED	2011	Hardness by EDTA Titration
20088817	SM 4500-ClO ₂ D	22nd ED	2011	Chlorine Dioxide by DPD Method
20048684	SM 2540 B	23rd ED	2015	Total Solids Dried at 103 - 105 deg C
20086628	SM 4500-Cl ⁻ E	23rd ED	2011	Chloride by Automated Ferricyanide Method
20099814	SM 4500-CN ⁻ N	23rd ED	2016	Total Cyanide after Distillation, by Flow Injection Analysis
20048628	SM 2520 B	22nd ED	2011	Salinity by Electrical Conductivity Method
20048639	SM 2520 B	23rd ED	2011	Salinity by Electrical Conductivity Method
20055827	SM 3111 C	23rd ED	2011	Metals by Flame Atomic Absorption, Extraction and Direct Aspiration
20043838	SM 2310 B	23rd ED	2011	Acidity by Titration
20054084	SM 2710 B	22nd ED	1997	Sludge Oxygen Consumption
20066620	SM 3500-Cr C	23rd ED	2011	Hexavalent Chromium by Ion Chromatographic Method
20050446	SM 2540 D	23rd ED	2015	Total Suspended Solids Dried at 103 - 105 deg C
20051234	SM 2540 E	23rd ED	2015	Fixed and Volatile Solids Ignited at 550 deg C
20052237	SM 2540 G	22nd ED	2011	Total, Fixed, and Volatile Solids
20052248	SM 2540 G	23rd ED	2015	Total, Fixed, and Volatile Solids
20005861	SM 2710 F	23rd ED	2011	Sludge Specific Gravity
20106621	SM 4500-NH ₃ C	23rd ED	2011	Ammonia Nitrogen by Titration

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
20054073	SM 2710 B	20th ED	1997	Sludge Oxygen Consumption
20000640	SM 3030 E	20th ED	1997	Nitric Acid Digestion
20051621	SM 2540 F	23rd ED	2015	Settleable Solids
20095027	SM 4500-CN ⁻ B	23rd ED	2016	Cyanide Preliminary Treatment of Samples
20000628	SM 3030 E	19th ED	1993	Nitric Acid Digestion
20120325	SM 4500-O B	23rd ED	2016	Dissolved Oxygen by Iodometric Method
20119828	SM 4500-Norg C	23rd ED	2011	Organic Nitrogen by Macro Kjeldahl Method
20125626	SM 4500-S2 ⁻ D	23rd ED	2011	Sulfide by Methylene Blue Method
20125251	SM 4500-S2 ⁻ B	23rd ED	2011	Separation of Soluble and Insoluble Sulfide
20120847	SM 4500-O C-2016		2016	Dissolved Oxygen by Azide Modification
20109222	SM 4500-NH3 D	23rd ED	2011	Ammonia Nitrogen by Selective Ion Probe
20110025	SM 4500-NH3 E	23rd ED	2011	Ammonia Nitrogen by Selective Ion Probe Using Known Addition
20121420	SM 4500-O G	23rd ED	2016	Dissolved Oxygen by Membrane Electrode
20123222	SM 4500-P B.5	23rd ED	2011	Phosphorus by Persulfate Digestion Method
20126823	SM 4500-S2 ⁻ G	23rd ED	2011	Sulfide by Ion-Selective Electrode Method
20125342	SM 4500-S2 ⁻ C	23rd ED	2011	Sulfide Pretreatment
20130421	SM 4500-SO3 ⁻ B	23rd ED	2011	Sulfite by Iodometric Method
20111233	SM 4500-NH3 G	23rd ED	2011	Ammonia Nitrogen by Automated Phenate Method
20112021	SM 4500-NH3 H	23rd ED	2011	Ammonia Nitrogen by Flow Injection Analysis
20120234	SM 4500-Norg D	23rd ED	2011	Organic Nitrogen by Block Digestion and Flow Injection Analysis

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
20118563	SM 4500-NO ₃ ⁻ I	23rd ED	2011	Nitrate by Cadmium Reduction Flow Injection
20118234	SM 4500-NO ₃ ⁻ H	23rd ED	2016	Nitrate Nitrogen by Automated Cadmium Reduction
20125126	SM 4500-P G	23rd ED	2011	Orthophosphate by Flow Injection Analysis
20125213	SM 4500-P H	23rd ED	2011	Total Phosphorus by Manual Digestion and Flow Injection Analysis
20126867	SM 4500-S ₂ ⁻ I	23rd ED	2011	Sulfide by Distillation and Methylene Blue Flow Injection Analysis
20134229	SM 4500-SO ₄ ⁻ G	23rd ED	2011	Sulfate by Methylthymol Blue Flow Injection Analysis
20129888	SM 4500-SiO ₂ F	23rd ED	2011	Silica by Flow Injection Analysis for Molybdate-Reactive Silicate
20110650	SM 4500-NH ₃ F	23rd ED	2011	Ammonia by Phenate Method
20119022	SM 4500-Norg B	23rd ED	2011	Organic Nitrogen by Macro Kjeldahl Method
20141428	SM 5520 B	23rd ED	2011	Oil and Grease by Partition-Gravimetric Method
20135324	SM 5220 B	2013	2011	Chemical Oxygen Demand (COD) by Open Reflux
20135824	SM 5220 C	23rd ED	2011	Chemical Oxygen Demand (COD) by Closed Reflux and Titration
20136623	SM 5220 D	23rd ED	2011	Chemical Oxygen Demand (COD) by Closed Reflux and Colorimetric Determination
20146821	SM 6200 B	23rd ED	2011	Volatile Organics by Purge and Trap Capillary-Column GC/MS Method
20135028	SM 5210 B	23rd ED	2016	Biochemical Oxygen Demand (BOD) 5-Day
20154023	SM 6630 C	23rd ED	2007	Organochlorine Pesticides by Liquid-Liquid Extraction GC Method II
20143026	SM 5520 F	23rd ED	2011	Oil and Grease Hydrocarbons
20029327	SM 5550 B	22nd ED	2010	Tannin and Lignin by Colorimetric Method
30030774	ASTM D4059-00 (2018)		2018	Polychlorinated Biphenyls in Insulating Liquids by GC

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
30030763	SM 4500-NO ₃ ⁻ I	23rd ED	2011	Nitrate by Cadmium Reduction Flow Injection
30030898	SM 4500-NO ₃ ⁻ H	23rd ED	2016	Nitrate Nitrogen by Automated Cadmium Reduction
90015819	SM 4500-P G	23rd ED	2011	Orthophosphate by Flow Injection Analysis
20000708	SM 4500-P H	23rd ED	2011	Total Phosphorus by Manual Digestion and Flow Injection Analysis
90019219	SM 4500-S ₂ ⁻ I	23rd ED	2011	Sulfide by Distillation and Methylene Blue Flow Injection Analysis
60054957	SM 4500-SO ₄ ⁻ G	23rd ED	2011	Sulfate by Methylthymol Blue Flow Injection Analysis
60020135	SM 4500-SiO ₂ F	23rd ED	2011	Silica by Flow Injection Analysis for Molybdate-Reactive Silicate
60039170	SM 4500-NH ₃ F	23rd ED	2011	Ammonia by Phenate Method
60028071	SM 4500-Norg B	23rd ED	2011	Organic Nitrogen by Macro Kjeldahl Method
60028128	SM 5520 B	23rd ED	2011	Oil and Grease by Partition-Gravimetric Method
60002939	SM 5220 B	2013	2011	Chemical Oxygen Demand (COD) by Open Reflux
60002951	SM 5220 C	23rd ED	2011	Chemical Oxygen Demand (COD) by Closed Reflux and Titration
60039192	ESB SOP T758		2021	Babcock Laboratories - PFAS by LC/MS/MS
60001469	AEL SOP WC-022	11	2022	Advanced Environmental Laboratories - Total Organic Carbon, Dissolved Organic Carbon, and Total Inorganic Carbon
60052360	Torrent SOP 2392	4	2021	Analysis of Fixed Gases in Air by GC-TCD
60052100	Torrent SOP 2326	4	2021	Chlorinated Herbicides in Water and Soil by HPLC-MS/MS

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
60052188	Torrent SOP 2332	4	2021	Per- and Poly-Fluoroalkyl Substances (PFAS) by LCMS-MS; Internal Standard Quantitation in Matrices Other than Drinking Water
60052337	Torrent SOP 2390	5	2021	Volatile Organic Compounds in Air by GC/MS
60052279	Torrent SOP 2388	6	2021	Volatile Organic Compounds and GRO by GC/MS
60052086	Torrent SOP 2320	4	2021	Torrent - Total Petroleum Hydrocarbons in Water and Soil by GC-FID
60052155	Torrent SOP 2330	3	2021	Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS and GC-MS-MS
60052235	Torrent SOP 2333	4	2022	Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Biosolids by GC-MS-MS
90015831	FLDEP SOP LC-001	3.2	2022	Florida DEP - Pesticides, Herbicides, and Other Chemicals in Sample Extracts by HPLC/MS/MS
90015922	FLDEP SOP NU-094	1.14	2022	Florida DEP - True Color in Water Using the AQ2 Discrete Analyzer
60002462	CH SOP 4407	1.0	2022	ChemHistory - Analysis of Psilocybe Tryptamines by HPLC-DAD
10050767	EPA 332.0 (IC/MS/MS)	1.0	2005	Perchlorate in Drinking Water by IC with Suppressed Conductivity and IC/MS/MS
60044964	PACE SOP-BTRO-0111	09	2022	PACE Analytical Gulf Coast - PFAS by Isotopic Dilution
60030786	Contest APAL SOP ENV-SOP-ELON-0033_SOP 466	1	2022	Contest APAL - PFAS Soils Isotope Dilution
60030673	Contest APAL SOP ENV-SOP-ELON-0004_SOP 454	2	2022	Contest APAL - PFAS Water Isotope Dilution
60042322	Lovibond TB 5000	1.0	2021	Turbidity in Drinking Water
10309827	EPA 904.0	1.0	2022	Radium-228 in Drinking Water

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
60042333	Lovibond TB 6000	1.0	2021	Turbidity in Drinking Water
60042311	Lovibond TB 3500	1.0	2021	Turbidity in Drinking Water
30019819	ASTM D4785-20		2020	Low-Level Iodine-131 in water
30020510	ASTM D5317-20		2020	Chlorinated Organic Acid Compounds in water by GC/ECD
30018816	ASTM D4107-20		2020	Tritium in Drinking Water
20000719	SM 3030 F	23rd ED	2004	Nitric Acid-Hydrochloric Acid Digestion
90017484	MDA GD24 (Ag List 4)		2022	MN Dept of Agriculture Fixed Base Laboratory QA/QC Plans
90017428	MDA GD24 (Ag List 1)		2022	MN Dept of Agriculture Fixed Base Laboratory QA/QC Plans
90017440	MDA GD24 (Ag List 2)		2022	MN Dept of Agriculture Fixed Base Laboratory QA/QC Plans
90017462	MDA GD24 (Ag List 3)		2022	MN Dept of Agriculture Fixed Base Laboratory QA/QC Plans
60041909	ML MI 340		2021	Fecal Coliform SM 922B by Enzyme Substrate
90016732	CA DDW - DWRL-123TCP		2021	CA Division of Drinking Water - 123-Trichloropropane in Drinking Water by Isotope Dilution Purge and Trap GC/MS
60001470	AEL MICRO-024	01	2022	Advanced Environmental Laboratories - Legiolert Elite
30025139	ASTM D2216-19		2019	Determination of Water (Moisture) Content of Soil and Rock by Mass
60001174	ALPHA SOP 23528	17	2022	Alpha Analytical - Selected Perfluorinated Alkyl Substances by SPE and Isotope Dilution LC/MS/MS
60001721	ALS Kelso SOC-8081	24.0	2022	ALS Kelso - Organochlorine Pesticides by GC/ECD
60034028	SET PFOA/PFAS-LC/MS/MS_Solids	1	2022	Summit Env Technologies - Per and Polyfluorinated Alkyl Substances in Solid Matrices by LC/MS/MS In-House

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
60006237	PAM-16130-SSI	1.1		Pace Analytical Method - 2,3,7,8-substituted Tetra through Octa-chlorinated-p-Dibenzo-p-Dioxins and Dibenzofurans (CDDs/CDFs) using (GC/MS/MS)
60034017	SET PFOA/PFAS-LC/MS/MS_NPW	1	2022	Summit Env Technologies - Per and Polyfluorinated Alkyl Substances in Non-potable Water by LC/MS/MS In-House
90019888	ORELAP SOP-004	1.0	2022	ORELAP - Protocol for Collecting Samples of Psilocybin Products
60004355	HACH 10205	2.0	2008	Ammonia Nitrogen by Salicylate Method, TNT plus 830/831/832
60044997	Pace SOP ENV-MTJL-00332	0		PACE Analytical - Determination of Actinide Elements
60031198	Medicinal Genomics PsiloSEEK Speciation Assay	1	2022	Cubensis Speciation via PCR
60006566	Psilocybin and Psilocin via HPLC	1.0	2022	Rapid quantification of Psilocybin with reversed-phase HPLC and single-wavelength detection
60002713	EA SOP EU047	7	2021	PFAS in Non-Potable Water and Solid and Chemical Materials by LC/MS/MS
60002917	ELL T-PFAS-WI14355	14	2022	Eurofins Lancaster Laboratories - PFAS in Aqueous Samples by EPA Method 537 Isotope Dilution
20214453	SM 9223 B (Colilert)-2016		2016	Enzyme Substrate Coliform Test (Colilert)
20214475	SM 9223 B (Colilert-18)-2016		2016	Enzyme Substrate Coliform Test (Colilert-18)
20203423	SM 9222 B (m-Endo)-1997		1997	Membrane Filtration Quantitative (M-Endo): Total Coliform
60034631	RL LAB.PRC.023	1	2023	Reference Labs - Alkaloid Testing in Biological Tissue and Solid Samples
60030333	GLL - SOP 302	1.1.1	2022	Green Leaf Labs - Microbial Analysis of Escherichia Coli and Salmonella via Real-time PCR (Clear Scientific Kit)

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Method Codes Added in 2022 cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
60030355	GLL - SOP 303	1.1.1	2022	Green Leaf Labs - Microbial Analysis of Aspergillus species A. Fumigatus, A. Flavus, A. Niger, and A. Terreus via Real-time PCR (Clear Scientific Kit)
60034664	RL LAB.PRC.025	1	2023	Reference Labs - Methanol and Acetic Acid in Psilocin and Psilocybin Containing Materials
20300269	SM 10300 C	21st ED	2001	Plankton Concentration Techniques
60034653	RL LAB.PRC.024	1	2023	Reference Labs - Psilocybe cubensis Speciation by qPCR
60030515	JEL 1238/EPA 9060 Mod	5	2022	Jupiter Env. Labs - Preparation and Analysis of Total Organic Carbon (TOC) Waters (based on SM5310B) and Soils (based on EPA 9060 Modified)
60045077	PACE ENV-SOP-MIN4-0178	04	2022	Pace Analytical - Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS
60031314	Medicinal Genomics Salmonella/STEC by PCR	1	2022	Medicinal Genomics PathoSEEK® Salmonella & STEC Multiplex Assay with SenSATIVAx® DNA Purification

New Analytes Added in 2022

TNI Analyte Code	Name	CAS_Number
6161	Galerina sp	NA
6167	Psilocin	520-52-6
6169	Psilocybe cubensis	NA
6172	Psilocybin	520-52-5
3486	Lamsilis radiata siliquoidea	NA
8976	Sum - Dichlorobiphenyls (BZ-4 + BZ-10)	NA
8977	Sum - Dichlorobiphenyls (BZ-5 + BZ-8)	NA
8978	Sum - Dichlorobiphenyls (BZ-7 + BZ-9)	NA
8979	Sum - Heptachlorobiphenyls (BZ-172 + BZ-192)	NA
8981	Sum - Heptachlorobiphenyls (BZ-182 + BZ-187)	NA

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Analytes Added in 2022 cont.

TNI Analyte Code	Name	CAS_Number
8982	Sum - Hexachlorobiphenyls (BZ-131 + BZ-142)	NA
8983	Sum - Hexachlorobiphenyls (BZ-132 + BZ-168)	NA
8984	Sum - Hexachlorobiphenyls (BZ-135 + BZ-144)	NA
8996	Sum - Hexachlorobiphenyls (BZ-138 + BZ-163 + BZ-164)	NA
8997	Sum - Hexachlorobiphenyls (BZ-139 + BZ-149)	NA
8998	Sum - Hexachlorobiphenyls (BZ-158 + BZ-160)	NA
8999	Sum - Octachlorobiphenyls (BZ-196 + BZ-203)	NA
9001	Sum - Pentachlorobiphenyls (BZ-105 + BZ-127)	NA
9002	Sum - Pentachlorobiphenyls (BZ-106 + BZ-118)	NA
9003	Sum - Pentachlorobiphenyls (BZ-107 + BZ-108)	NA
9004	Sum - Pentachlorobiphenyls (BZ-111 + BZ-117)	NA
9006	Sum - Pentachlorobiphenyls (BZ-83 + BZ-109)	NA
9007	Sum - Pentachlorobiphenyls (BZ-85 + BZ-115 + BZ-116)	NA
9008	Sum - Pentachlorobiphenyls (BZ-85 + BZ-120)	NA
9009	Sum - Pentachlorobiphenyls (BZ-86 + BZ-97)	NA
9012	Sum - Pentachlorobiphenyls (BZ-88 + BZ-121)	NA
9013	Sum - Pentachlorobiphenyls (BZ-89 + BZ-90 + BZ-101)	NA
9014	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95)	NA
9016	Sum - Tetrachlorobiphenyls (BZ-43 + BZ-49)	NA
9017	Sum - Tetrachlorobiphenyls (BZ-47 + BZ-48 + BZ-75)	NA
9018	Sum - Tetrachlorobiphenyls (BZ-52 + BZ-73)	NA
9019	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-74)	NA
9021	Sum - Tetrachlorobiphenyls (BZ-66 + BZ-80)	NA
9022	Sum - Trichlorobiphenyls (BZ-20 + BZ-21 + BZ-33)	NA
9023	Sum - Trichlorobiphenyls (BZ-23 + BZ-34)	NA
9024	Sum - Trichlorobiphenyls (BZ-24 + BZ-27)	NA
8302	Carfentrazone Ethyl	128639-02-1
8308	Cyprodinil	121552-61-2
8329	Difenoconazole	119446-68-3

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Analytes Added in 2022 cont.

TNI Analyte Code	Name	CAS_Number
8332	Dimethomorph	110488-70-5
8334	Fenbuconazole	114369-43-6
8337	Fluazifop-p-butyl	79241-46-6
8341	Flumioxazin	103361-09-7
8345	Flutolanil	66332-96-5
8348	Fluxapyroxad	907204-31-3
8350	Iprodione	36734-19-7
8480	Microcystin HiLR	169789-55-3
8482	Microcystin HtyR	478001-08-0
8490	Neosaxitoxin	64296-20-4
8353	Prodiamine	29091-21-2
8355	Pyraflufen Ethyl	129630-19-9
8357	Sulfentrazone	122836-35-5
8168	tau-Fluvalinate	102851-06-9
8592	Triclosan Methyl Ether	4640-01-1
9026	Sum - Pentachlorobiphenyls (BZ-84 + BZ-101)	NA
6963	Total Organic Fluorine	NA
1713	Dissolved Reactive Phosphorus	NA
6464	6PPD-quinone	793-24-8
8340	Flumetsulam	98967-40-9
8349	Fomesafen	72178-02-0
8359	Imazethapyr	81335-77-5
8363	Mesotrione	14206-82-8
8375	Tembotrione	335104-84-2
6961	1H,1H,2H,2H -Perfluoro-1-decanol (8:2 FTOH)	678-39-7
6962	8:2 Polyfluoroalkyl phosphate diester (8:2 diPAP)	678-41-1
9380	Ammonium-2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy) propanoate (GenX)	62037-80-3
7056	C12-18-Alkyldimethyl(ethylbenzyl) ammonium chlorides	68956-79-6
7059	C12-C15 Alcohol ethoxylate	68131-39-5

APPENDIX 2. Method and Analyte Codes – 2022 cont.

New Analytes Added in 2022 cont.

TNI Analyte Code	Name	CAS_Number
7061	C12-C18 Alkyl dimethylbenzyl ammonium chlorides	68391-01-5
6752	Oil Range Organics C22-C32	NA
1913	Potassium Hydroxide	1310-58-3
1999	Sodium Silicate	1344-09-8
2031	Tetrasodium EDTA	94-02-8
5466	Aspergillus flavus	NA
5467	Aspergillus fumigatus	NA
5468	Aspergillus niger	NA
5469	Aspergillus terreus	NA
5412	Total Aflatoxins	NA
9371	Bis(trifluoromethane)sulfonamide	82113-65-3
7337	Taurochenodeoxycholic acid	516-35-8
7332	Taurodeoxycholic acid	516-50-7
7334	Tauroursodeoxycholic acid, sodium salt	14605-22-2
9925	1,1,2,2,3,3,4,4,4-Nonafluoro-N,N-bis(2-hydroxyethyl)butane-1-sulfonamide	34455-00-0
9926	1,1,2,2-tetrafluoro-2-[1,1,1,2,3,3-hexafluoro-3-(1,2,2-trifluoroethenoxy)propan-2-yl]oxyethanesulfonic acid	29311-67-9
9927	2,2,3,3,4,5,5,5-Octafluoro-4-(1,1,2,2-tetrafluoro-2-sulfoethoxy)pentanoic acid (R-PSDA)	2416366-18-0
9928	2,2,3,3-Tetrafluoro-3-[1,1,1,2,3,3-hexafluoro-3-(1,2,2-trifluoroethenoxy)propan-2-yl]oxypropanoic acid (EVE Acid)	69087-46-3
9929	2,2,3,3-Tetrafluoro-3-methoxypropanoic acid (MTP)	93449-21-9
9930	2-Fluoro-2-[1,1,2,3,3,3-hexafluoro-2-(1,1,2,2-tetrafluoro-2-sulfoethoxy)propoxy]acetic acid	2416366-19-1
9931	2H-Perfluoro-2-dodecanoic acid (10:2 FTUCA)	70887-94-4

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes

Method Code	Method Reference	Revision	Revision Date	Method Title
10113403	EPA 903.1			Radium-226 Radon Emanation Technique
10212201	EPA Ra-03			Radium-226 in Water
10062405	EPA 340.3			Fluoride - Colorimetric, Automated Complexone
10066805	EPA 353.1			Nitrate/Nitrite Nitrogen - Automated, Hydrazine
10238809	EPA 353.2 (calc)			Nitrate as Nitrogen by Automated Cadmium Reduction Method (Calculated)
10072205	EPA 375.1			Sulfate - Colorimetric, Automated, Chloranilate.
10072603	EPA 375.2			Sulfate - Colorimetric, Automated, Methylthymol.
10079604	EPA 420.2			Phenolics, Total Recoverable by Automated Spectrophotometer
10004805	EPA Method 101			Mercury Emissions - Chlor-Alkali Plants (Air) by Cold Vapor Atomic Absorption
10036803	EPA 245.1 CLP-M, IMLO 4.1			Mercury by Cold Vapor Atomic Absorption
10037408	EPA 245.2 CLP-M, IMLO 4.1			Mercury by Cold Vapor Atomic Absorption
10037806	EPA 245.5 CLP-M, IMLO 4.1			Mercury in Sediment by Cold Vapor Atomic Absorption
10015802	EPA 202.1			Aluminum by Flame Atomic Absorption
10016203	EPA 202.1		1995	Aluminum by Flame Atomic Absorption
10265006	EPA 202.1		1974	Aluminum by Flame Atomic Absorption
10017002	EPA 204.1			Antimony by Flame Atomic Absorption
10265200	EPA 204.1		1974	Antimony by Flame Atomic Absorption
10020403	EPA 208.1			Barium by Flame Atomic Absorption
10021406	EPA 210.1			Beryllium by Flame Atomic Absorption
10023004	EPA 213.1			Cadmium by Flame Atomic Absorption
10023402	EPA 213.1		1995	Cadmium by Flame Atomic Absorption
10266601	EPA 213.1		1971	Cadmium by Flame Atomic Absorption

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10024405	EPA 215.1			Calcium by Flame Atomic Absorption
10267206	EPA 215.1	4.1	1974	Calcium by Flame Atomic Absorption
10024803	EPA 215.1 CLP-M, IMLO 4.1			Calcium by Flame Atomic Absorption
10025408	EPA 218.1			Chromium by Flame Atomic Absorption
10026809	EPA 218.3			Chromium by Flame Atomic Absorption
10028203	EPA 219.1			Cobalt by Flame Atomic Absorption
10029206	EPA 220.1			Copper by Flame Atomic Absorption
10030407	EPA 231.1			Gold by Flame Atomic Absorption
10031206	EPA 235.1			Iridium by Flame Atomic Absorption
10032005	EPA 236.1			Iron by Flame Atomic Absorption
10033202	EPA 239.1			Lead by Flame Atomic Absorption
10033600	EPA 239.1		1995	Lead by Flame Atomic Absorption
10034603	EPA 242.1			Magnesium by Flame Atomic Absorption
10035004	EPA 243.1			Manganese by Flame Atomic Absorption
10038207	EPA 246.1			Molybdenum by Flame Atomic Absorption
10039006	EPA 249.1			Nickel by Flame Atomic Absorption
10040003	EPA 252.1			Osmium by Flame Atomic Absorption
10040809	EPA 253.1			Palladium by Flame Atomic Absorption
10041608	EPA 255.1			Platinum by Flame Atomic Absorption
10042407	EPA 258.1			Potassium by Flame Atomic Absorption
10042805	EPA 258.1 CLP-M, IMLO 4.1			Potassium by Flame Atomic Absorption
10043400	EPA 265.1			Rhodium by Flame Atomic Absorption
10044209	EPA 267.1			Ruthenium by Flame Atomic Absorption
10046001	EPA 272.1			Silver by Flame Atomic Absorption

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10047606	EPA 273.1 CLP-M, IMLO 4.1			Sodium by Flame Atomic Absorption
10048007	EPA 279.1			Thallium by Flame Atomic Absorption
10049204	EPA 282.1			Tin by Flame Atomic Absorption
10050007	EPA 283.1			Titanium by Flame Atomic Absorption
10050803	EPA 286.1			Vanadium by Flame Atomic Absorption
10051806	EPA 289.1			Zinc by Flame Atomic Absorption
10114406	EPA 908.1			Fluorometric Method Uranium
10083202	EPA 505			Organohalide pesticides/PCBs (Drinking Water)
10085004	EPA 508			Chlorinated Pesticides in Water by GC/ECD
10086007	EPA 508.1			Chlorinated Pesticides, Herbicides, and Organohalides, liquid/solid extraction, GC/ECD
10085606	EPA 508A			PCB Screening by Perchlorination and GC/ECD
10087000	EPA 515.1			Chlorinated acids by GC/ECD
10087602	EPA 515.2			Chlorinated acids - Liquid/Solid and GC/ECD
10092203	EPA 548			Determination of Endothall in Drinking Water by Ion-Exchange Extraction, Acidic Methanol Methylation, and Gas Chromatography/Mass Spectrometry
10094607	EPA 551.1			Chlorination Disinfection Byproducts, Liquid/Liquid Extraction and GC/ECD
10095202	EPA 552.1			Haloacetic Acid/Dalapon, Liquid/Solid Extraction, Derivatization and GC/ECD
10095600	EPA 552.2			Haloacetic Acid/Dalapon, Liquid/Liquid Extraction, Derivatization and GC/ECD
10296409	EPA 608.1			Organochlorine Pesticides & PCBs by GC/ECD
10298007	EPA 614.1			Organophosphorous Pesticides in Wastewater
10111805	EPA 646			Dinitro Aromatic Pesticides by Liquid/Liquid Extraction and GC/ECD

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10178208	EPA 8080A			Organochlorine Pesticides and Polychlorinated Biphenyls by GC
10181007	EPA 8120A			Chlorinated Hydrocarbons by GC
10182806	EPA 8150B			Chlorinated Herbicides by GC
10082005	EPA 502.2			Volatile Organic Compounds in Drinking Water by GC/PID/ELCD
10053802	EPA Method 305			VOC emission Potential in wastes
10105803	EPA 616			Carbon, Hydrogen, and Oxygen containing Pesticides by Liquid/Liquid Extraction and GC/FID
10246681	EPA Method 15			Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources
10128402	EPA 1666A			Volatile Organic Compounds by Isotopic Dilution
10089200	EPA 525.1			Semi-Volatile by SPE extraction and GC/MS
10089608	EPA 525.2			Semi-Volatile by SPE extraction and GC/MS
10090207	EPA 526			Semivolatile Organic Compounds in Drinking Water By SPE and GC/MS
10090605	EPA 528			Phenols in Drinking Water by SPE & Cap Col GC/MS
10183605	EPA 8240A			Volatile Organic compounds by GC/MS
10183809	EPA 8240B			Volatile Organic compounds by GC/MS
10184200	EPA 8250A			SemiVolatile Organic compounds by GC/MS
10084409	EPA 507			Nitrogen & Phosphorous Pesticides
10106602	EPA 620			Diphenylamine by Liquid/Liquid Extraction and GC/NPD
10301607	EPA 633			Organonitrogen Pesticides by Liquid/Liquid Extraction and GC/NPD
10109407	EPA 634			Thiocarbate Pesticides by Liquid/Liquid Extraction and GC/NPD
10111601	EPA 645			Certain Amine Pesticides and Lethane by Liquid/Liquid Extraction and GC/NPD

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10083804	EPA 506			Phthalate and Adipate Esters Liquid/Liquid & PID
10016407	EPA 202.2			Aluminum by Graphite Furnace Atomic Absorption
10016805	EPA 202.2		1995	Aluminum by Graphite Furnace Atomic Absorption
10017400	EPA 204.2			Antimony by Graphite Furnace Atomic Absorption
10018005	EPA 204.2			Antimony by Graphite Furnace Atomic Absorption
10018209	EPA 206.2			Arsenic by Graphite Furnace Atomic Absorption
10018607	EPA 206.2		1995	Arsenic by Graphite Furnace Atomic Absorption
10018801	EPA 206.2			Arsenic by Graphite Furnace Atomic Absorption
10020801	EPA 208.2			Barium by Graphite Furnace Atomic Absorption
10021202	EPA 208.2		1995	Barium by Graphite Furnace Atomic Absorption
10021804	EPA 210.2			Beryllium by Graphite Furnace Atomic Absorption
10022409	EPA 210.2 CLP-M, IMLO 4.1			Beryllium by Graphite Furnace Atomic Absorption
10023606	EPA 213.2			Cadmium by Graphite Furnace Atomic Absorption
10266805	EPA 213.2	4.1	1995	Cadmium by Graphite Furnace Atomic Absorption
10024201	EPA 213.2 CLP-M, IMLO 4.1			Cadmium by Graphite Furnace Atomic Absorption
10026003	EPA 218.2			Chromium by Graphite Furnace Atomic Absorption
10026401	EPA 218.2		1995	Chromium by Graphite Furnace Atomic Absorption
10268209	EPA 218.2	4.1	1995	Chromium by Graphite Furnace Atomic Absorption
10026605	EPA 218.2 CLP-M IMLO 4.1			Chromium by Graphite Furnace Atomic Absorption
10027200	EPA 218.4			Chromium VI by APDC/MIBK and Graphite Furnace Atomic Absorption
10028601	EPA 219.2			Cobalt by Graphite Furnace Atomic Absorption
10029002	EPA 219.2		1995	Cobalt by Graphite Furnace Atomic Absorption

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10029808	EPA 220.2			Copper by Graphite Furnace Atomic Absorption
10030203	EPA 220.2		1995	Copper by Graphite Furnace Atomic Absorption
10030805	EPA 231.2			Gold by Graphite Furnace Atomic Absorption
10031604	EPA 235.2			Iridium by Graphite Furnace Atomic Absorption
10032607	EPA 236.2			Iron by Graphite Furnace Atomic Absorption
10033008	EPA 236.2		1995	Iron by Graphite Furnace Atomic Absorption
10033804	EPA 239.2			Lead by Graphite Furnace Atomic Absorption
10034205	EPA 239.2		1995	Lead by Graphite Furnace Atomic Absorption
10270209	EPA 239.2	4.1	1978	Lead by Graphite Furnace Atomic Absorption
10034409	EPA 239.2 CLP-M, IMLO 4.1			Lead by Graphite Furnace Atomic Absorption
10035606	EPA 243.2			Manganese by Graphite Furnace Atomic Absorption
10036007	EPA 243.2		1995	Manganese by Graphite Furnace Atomic Absorption
10038605	EPA 246.2			Molybdenum by Graphite Furnace Atomic Absorption
10039404	EPA 249.2			Nickel by Graphite Furnace Atomic Absorption
10039802	EPA 249.2		1995	Nickel by Graphite Furnace Atomic Absorption
10040401	EPA 252.2			Osmium by Graphite Furnace Atomic Absorption
10041200	EPA 253.2			Palladium by Graphite Furnace Atomic Absorption
10042009	EPA 255.2			Platinum by Graphite Furnace Atomic Absorption
10043808	EPA 265.2			Rhodium by Graphite Furnace Atomic Absorption
10044607	EPA 267.2			Ruthenium by Graphite Furnace Atomic Absorption
10045008	EPA 270.2			Selenium by Graphite Furnace Atomic Absorption
10045600	EPA 270.2 CLP-M, IMLO 4.1			Selenium by Graphite Furnace Atomic Absorption
10046409	EPA 272.2			Silver by Graphite Furnace Atomic Absorption

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10047004	EPA 272.2 CLP-M, IMLO 4.1			Silver by Graphite Furnace Atomic Absorption
10048405	EPA 279.2			Thallium by Graphite Furnace Atomic Absorption
10048803	EPA 279.2		1995	Thallium by Graphite Furnace Atomic Absorption
10049000	EPA 279.2 CLP-M, IMLO 4.1			Thallium by Graphite Furnace Atomic Absorption
10049602	EPA 282.2			Tin by Graphite Furnace Atomic Absorption
10050405	EPA 283.2			Titanium by Graphite Furnace Atomic Absorption
10051204	EPA 286.2			Vanadium by Graphite Furnace Atomic Absorption
10051602	EPA 286.2		1995	Vanadium by Graphite Furnace Atomic Absorption
10052401	EPA 289.2			Zinc by Graphite Furnace Atomic Absorption
10052809	EPA 289.2		1995	Zinc by Graphite Furnace Atomic Absorption
10077608	EPA 413.1			Oil and Grease - Gravimetric.
10404429	EPA Method 5B			Nonsulfuric Acid Particulate Matter Emissions from Stationary Sources by Gravimetric
10216543	EPA NAREL AM/SOP-3			NAREL SOP-Gamma Spectroscopy
10019008	EPA 206.3			Arsenic by Gaseous Hydride Atomic Absorption
10090809	EPA 531.1			Carbamates HPLC with post column derivatization
10110802	EPA 641			Thiabendazole by Liquid/Liquid Extraction and HPLC Fluorescence
10248007	EPA TO-11A			Formaldehyde by Cartridge Adsorption and HPLC/Fluorescence
10096001	EPA 553			Benzidines and Nitrogen-containing pesticides
10129007	EPA 1667A			Formaldehyde, Isobutyraldehyde, and Furfural by Derivatization and High Performance Liquid Chromatography Revision A

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10091404	EPA 532			Determination of Phenylurea Compounds in Drinking Water by Solid Phase Extraction and High Performance Liquid Chromatography with UV Detection
10093604	EPA 550			Polycyclic Aromatic Hydrocarbons, Liquid/Liquid Extraction and HPLC/UV/Fluorescence
10094005	EPA 550.1			Polycyclic Aromatic Hydrocarbons (Drinking Water)
10102804	EPA 604.1			Determination of Hexachlorophene and Dichlorophen in Municipal and Industrial Wastewaters
10109601	EPA 635			Rotenone by Liquid/Liquid Extraction and HPLC/UV-VIS
10109805	EPA 636			Bensulide by Liquid/Liquid Extraction and HPLC/UV-VIS
10302600	EPA 637			MBTS and TCMTB by Liquid/Liquid Extraction and HPLC/UV-VIS
10110200	EPA 638			Oryzalin by Liquid/Liquid Extraction and HPLC/UV-VIS
10110404	EPA 639			Bendiocarb by Liquid/Liquid Extraction and HPLC/UV-VIS
10110608	EPA 640			Mercaptobenzothiazole by Liquid/Liquid Extraction and HPLC/UV-VIS
10111009	EPA 642			Biphenyl and ortho-Phenylphenol by Liquid/Liquid Extraction and HPLC/UV-VIS
10111203	EPA 643			Bentazon by Liquid/Liquid Extraction and HPLC/UV-VIS
10111407	EPA 644			Picloram by Liquid/Liquid Extraction and HPLC/UV-VIS
10014207	EPA 200.7			ICP - metals
10012201	EPA 200.1			Metals Arsenic, Cadmium, Chromium, Copper, Lead, Mercury by AA
10130606	EPA 1677			Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry
10068801	EPA 360.1			Dissolved Oxygen measured in the lab.
10149801	EPA 4010			Pentachlorophenol by immunoassay
10078805	EPA 418.1			Petroleum Hydrocarbons - Spec. Infrared.

APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10211800	EPA H-02			Tritium in Water - Dioxane Method
10213204	EPA Sr-04			Radiostrontium in Water, Sea Water and other Aqueous Media
10216588	EPA NAREL AM/ SOP-35	0	2015	NAREL SOP-Strontium in Environmental Matricies Using Extraction Chromatography
10025000	EPA 215.2			Calcium by Titrimetric EDTA
10056005	EPA 320.1			Bromide - Titrimetric
10057804	EPA 330.1			Residual Chlorine - Titrimetric, Amperometric
10058205	EPA 330.2			Residual Chlorine - Iodometric Back Titration
10058603	EPA 330.3			Residual Chlorine - Iodometric Titration
10060603	EPA 335.2 CLP-M, IMLO 4.1	4.1		Cyanide - Titrimetric; Spectrophotometric
10069202	EPA 360.2			Dissolved Oxygen - Winkler
10075806	EPA 410.1			Chemical Oxygen Demand - Titrimetric (mid-level).
10076207	EPA 410.2			Chemical Oxygen Demand - Titrimetric (low-level).
10076605	EPA 410.3			Chemical Oxygen Demand - Titrimetric (high-level).
10019406	EPA 206.4			Arsenic - Spectrophotometric, SDDC
10019804	EPA 206.4		1995	Arsenic - Spectrophotometric, SDDC
10022603	EPA 212.3			Boron - Colorimetric, Curcumin
10061606	EPA 340.1			Fluoride - Colorimetric, SPADNS with distillation
10066407	EPA 352.1			Nitrate Nitrogen - Brucine
10067808	EPA 353.3			Nitrate/Nitrite Nitrogen - Spec., Cadmium Reduction
10080407	EPA 425.1			Methylene Blue Active Substances
10172006	EPA 8000A			Determinative Chromatographic Separations
10216565	EPA NAREL AM/ SOP-9			NAREL SOP-Iodine-131 in Water
10216554	EPA NAREL AM/ SOP-4			NAREL SOP-Gross Alpha/Beta in Water
10216576	EPA NAREL AM/ SOP-7			NAREL SOP-Tritium in Non-potable Water



APPENDIX 2. Method and Analyte Codes – 2022 cont.

Retired Method Codes cont.

Method Code	Method Reference	Revision	Revision Date	Method Title
10214569	EPA ALT-005		1998	Particulate Emissions from Stationary Sources (Alternate EPA Method 5)
10288809	EPA 555		1992	Chlorinated Acids by HPLC/UV-VIS
10013000	EPA 200.2			Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements - Revision 2.8
10020005	EPA 206.5			Arsenic Digestion
10138600	EPA 3520A			Continuous Liquid-liquid extraction
10145003	EPA 3611A			Alumina Column Cleanup and separation of petroleum wastes