Summary of the NELAP Accreditation Council Meeting

July 10, 2017 1:30 pm Eastern

1. Roll Call and Approval of Minutes

The NELAP Accreditation Council (AC) met at 1:30 pm on Monday, July 10, 2017, with Vice Chair Paul Bergeron opening the meeting. Those present are listed in Attachment 1. Shortly after the minutes from June 5, 2017, were approved, Chair Aaren Alger arrived and Paul handed off the meeting to her.

Aaren announced that, in addition to the formal Monday morning, August 7, session, the AC will be meeting on Wednesday afternoon, August 9, at conference for an informal session, and asked that AB representatives bring their desired topics for discussion. No teleconference line will be available, and no staff person will be available to take minutes.

3. General Operations SOP 3-100

A clean copy of this SOP, incorporating the minor edits from the May meeting, was provided with the meeting reminder. Carl moved and Paul seconded that the revised SOP 3-100 be adopted. Since there was a bit of uncertainty about whether this action was a "matter of accreditation" or not, a roll call vote was taken. All ten ABs present voted to approve; since the meeting two additional "yes" votes have been received. The remaining two ABs have until July 31 to vote.

4. Draft Policy on Method Selection for Assessments

A revised draft of the subject policy was circulated for discussion. (See Attachment 2.) Aaren explained that the workgroup sought to make the policy detailed enough to ensure consistency but yet general enough to allow variation for the individual ABs, while still summarizing the elements needed for an AB's On-site Assessment SOP. She talked through the sections of the draft and noted that comments already received from MN and VA have yet to be incorporated.

Discussion points included:

- For listing technologies, different detectors are not the sole difference in GC methods, so that more examples may be needed
- The policy reads well, and as a policy instead of a standard, can be modified if needed
- Multiple people expressed concern about whether EPA's Technical Support Center and the EPA regional offices would find the description of requirements for assessing a method to be adequate
- Concerns were expressed about how contract assessors are trained in an AB's stated assessment protocols
- Different ABs currently have differing concepts of what constitutes assessing a method, from SOP review to verifying existence of the SOP and perhaps interviewing an analyst
- Several participants offered a strong preference for reviewing every SOP for an initial assessment
- If all drinking water methods require "full review", that would detract from the assessment team's ability to assess other types of methods

- A suggestion of multi-visit assessments, to allow more in-depth method reviews brought comments that labs object to losing work time for the additional site visits, but perhaps large labs could accommodate such a scheme (separate days for separate sections of the lab)

Donna was asked not to circulate the document further within EPA, until such time as the Council has agreed on its contents, but her specific input was requested. All council members were asked to provide comments after more detailed review, no later than August 3. Aaren committed to providing a revised draft, addressing all comments, in time for conference, and noted that a special section can be prepared to address drinking water methods, if needed.

5. AB FoA Tables and Secondary Accreditations

During the June discussion about FoA tables, the issue that some ABs include their secondary accreditations in FoA tables, while others do not, was tabled until the July meeting. Dan requested that the Council decide how it wishes to handle these as the conversion to relying on LAMS for FoA tables (instead of independent spreadsheets) progresses. A poll of those ABs present for this July meeting shows that three of the ten include in their FoA tables items for which they accept secondary accreditations but do not offer as primary accreditations.

Several options were considered, as follows:

- Make FoA definitions to be whatever a state offers for primary accreditation
- Ask KS/LDEQ/VA to change their procedures
- Ask Dan to add an additional column to the FoA scheme in LAMS for “secondary only”

Consensus was to ask Dan to add the additional column to the FoA tables as retained in LAMS. NOTE: Dan has agreed to talk with our webmaster about the feasibility of adding the additional column, and will report back to the AC at conference.

6. SIRs Needing Discussion

There was no time to discuss SIRs after the above agenda items were completed.

7. Review of Draft V1M4

A preview draft of the revised Chemistry module was posted for comment by the Chemistry committee. This is, according to the revised Consensus Standards Development SOP 2-100, similar to the former “working draft” version, but with more aggressive outreach to stakeholders.

The draft was circulated to AC and LASEC members with request to please review the proposed changes and send comments back to Val Slaven, Chair of the Chemistry Expert Committee. Please send your comments to her by July 26. The Chemistry committee plans to discuss this draft at its session at conference, on Tuesday morning, August 8.

8. Next Meeting

The next meeting of the Council will be on Monday, August 7, 2017, at 10:30 am Eastern time. This is the conference session, and a teleconference line will be made available, prior to the meeting itself.

Attachment 1

STATE	REPRESENTATIVE	PRESENT
FL	Carl Kircher E: carl.kircher@flhealth.gov	Yes
	Alternate: Vanessa Soto E: Vanessa.sotocontreras@flhealth.gov	Yes
IL	Celeste Crowley T: 217-557-0274 F: 217-524-6169 E: celeste.crowley@illinois.gov	No
	Alternate: Becky Hambelton Rebecca.Hambelton@Illinois.gov	No
	For information purposes: Kathy Marshall Kathy.Marshall@Illinois.gov	
	For information purposes: John South John.South@illinois.gov	
KS	Sara Hoffman sara.hoffman@ks.gov	Yes
	Alternate: N. Myron Gunsalus 785-291-3162 E: ngunsalus@ks.gov	Yes
	For Information Only: Paul Harrison	Yes
LA DEQ	Paul Bergeron T: 225-219-3247 E: Paul.Bergeron@la.gov	Yes
	Altérnate: Elizabeth West elizabeth.west@la.gov	No
LA DOH	Steve Martin stephen.martin@la.gov	No
	Alternate: Errin Rider 225-219-5235 Errin.rider@la.gov	No
MN	Lynn Boysen E: lynn.boysen@state.mn.us	Yes

	Alternate: Stephanie Drier 651-201-5326 E: stephanie.drier@state.mn.us	No
NH	Bill Hall T: (603) 271-2998 F: (603) 271-5171 E: george.hall@des.nh.gov	No
	Alternate: Tyler Croteau Tyler.Croteau@des.nh.gov	No
NJ	Michele Potter T: (609) 984-3870 F: (609) 777-1774 E: michele.potter@dep.nj.gov	Yes
	Alternate : Rachel Ellis E: rachel.ellis@dep.nj.gov	No
NY	Victoria Pretti 518-485-5570 victoria.pretti@health.ny.gov	Yes
	Alternate: Lynn McNaughton lynn.mcnaughton@health.ny.gov	No
OR	Scott Hoatson Agency Quality Assurance Officer Oregon Department of Environmental Quality 503-693-5786 E: hoatson.scott@deq.state.or.us	Yes
	Lizbeth Garcia Lizbeth.garcia@dhsoha.state.or.us	No
	Included for information purposes: Stephanie Ringsage, Manager, Laboratory Compliance Section 503-693-4126 stephanie.b.ringsage@state.or.us	No
	Included for information purposes: Chris Redman christopher.l.redman@dhsoha.state.or.us	Yes
PA	Aaren Alger T: (717) 346-8212 F: (717) 346-8590 E: aaalger@pa.gov	Yes
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TX	Ken Lancaster T: (512) 239-1990 E: Ken.Lancaster@tceq.texas.gov	Yes

UT	Kristin Brown T: (801) 965-2540 F: (801) 965-2544 E: kristinbrown@utah.gov	No
	Alternate: Alia Rauf T: 801-965-2511 E: arauf@utah.gov	No
VA	Cathy Westerman T: 804-648-4480 ext.391 E: cathy.westerman@dgs.virginia.gov	Yes
	Alternate: Ed Shaw T: 804-648-4480 ext.152 E: ed.shaw@dgs.virginia.gov	No
NELAP AC PA and EC	Lynn Bradley T: 540-885-5736 E: lynn.bradley@nelac-institute.org	Yes
EPA Liaison	Donna Ringel T: 732-321-4383 E: Ringel.Donna@epa.gov	Yes
California	Christine Sotelo Christine.Sotelo@waterboards.ca.gov	No
Oklahoma	David Caldwell E: David.Caldwell@deq.ok.gov	Yes
Guests:		

Attachment 2

Policy TITLE:	**Minimum Requirements for On-Site Assessments**
Policy NO.:	**3-XXX**
REVISION NO:	**0**
Program	**NELAP**

LAB Approved Date (unformatted version, prepared at LASEC request):	
LASEC Approved Date:	
NELAP AC Approved Date:	
Policy Committee Reviewed Date:	
TNI Board of Directors Endorsed Date:	
POL Effective Date:	

I. PURPOSE AND APPLICABILITY

This Policy establishes the minimum requirements and responsibilities of National Environmental Laboratory Accreditation Program-Recognized Accreditation Bodies ("NELAP ABs") during the development and implementation of the AB's assessment procedure for the assessment of applicant and accredited laboratories. This Policy also established the minimum requirements for the documentation preparation methods for ABs that do not offer or require the accreditation of such methodologies.

The NELAP Accreditation Council ("AC") and the individual NELAP ABs understand that all affected parties must have confidence in the accreditation decisions made by the NELAP AB. These affected parties include, but are not limited to laboratory clients, officials making environmental protection and public health decisions, users of analytical data, the laboratory community seeking competent subcontractors, NELAP ABs granting secondary accreditations, The NELAC Institute, and any other individual relying on the accreditation decisions made by the NELAP AB and the data results generated by the accredited laboratory.

This Policy establishes the minimum requirement and the procedure NELAP ABs will use to develop their on-site assessment procedures for initial and reassessments. The Policy describes the following elements to be included in the NELAP AB's procedures:

- Requirements of the NELAP AB's Assessment SOP, however named;
- Selection of test methods for assessment;
- Requirements for the method assessments;
- Documentation of the review/assessment of the test methods;

- Documentation of the preparation methods for which an AB has deemed the laboratory to be qualified or approved to use, if not accredited;
- How to identify and document the review of preparatory methods during the NELAP accreditation process.

The principle of mutual recognition is also a fundamental concept in a National Environmental Laboratory Accreditation Program. The policy is intended to provide assurance for all parties to the NELAP Mutual Recognition Policy 3-100 and all other stakeholders that all NELAP ABs follow the same practices for the development of their individual on-site assessment procedures.

This policy applies to the assessment of all NELAP fields of accreditation, regardless of regulatory program.

II. SUMMARY

According to the TNI Standard, ABs are required to establish, document, implement, and maintain procedures for the assessment of laboratories [V2M1: 5.1.2]. The objective of the assessment procedure is to ensure the AB's policies and procedures adequately define the minimum requirements undertaken to ensure the laboratory's compliance and competence with the accreditation requirement across the Scope of the laboratory's accreditation. The AB's procedures must:

- Document its plan for the assessment of each laboratory so that representative samples of the Scope of Accreditation are assessed on a regular basis [V2M1: 7.7.3].
- Include the evaluation of the laboratory's participation and performance in proficiency testing [V2M1: 7.11.1].
- Include the evaluation of the laboratory's compliance with the applicable NELAC or TNI Standard requirements for quality systems and the appropriate technical modules [V2M1: 8.1.1].

In preparation for and during the on-site assessment, the AB performs a review of representative files, records, methods, and witnesses the laboratory's operations through interviews and on-site visits. The AB's procedures shall consider:

- The Scope of each applicant or accredited laboratory for each accreditation cycle.
- The size of the laboratory's operations and their criticality.
- The number of technical staff/employees.
- The regulatory programs, such as the Safe Drinking Water Act ("SDWA"), for which the laboratory performs analytical testing activities.

III. DEFINITIONS

All definitions are incorporated by reference to maintain consistency within the TNI organization.

Field of Proficiency Testing (FoPT) as defined in Vol 1 Mod 1 and Vol 3

NELAP Accreditation Body as defined in Vol 2, Mod 1, and Vol 2, Mod 2

NELAP Accreditation Council as defined in the TNI Bylaws

Standard as defined in Vol. 1 Mod. 2

Primary Accreditation Body as defined in Vol. 2 Mod. 2

Secondary Accreditation Body as defined in Vol. 2 Mod. 2

IV. POLICY

1.0 Assessment Components

The AB's assessment procedure shall include a description of how the AB will perform assessments of laboratories for which NELAP accreditation is sought. These laboratories may be seeking initial or continuing accreditation, heretofore referred to as "laboratories" or "the laboratory." The following are mandatory components that must be incorporated into the AB's assessment procedures and must be included in every initial or reassessment.

1.1 Quality Systems Review

The Quality Systems Review is a comprehensive review of a laboratory's quality system. Each NELAP AB is responsible for the assessment and evaluation of the laboratory's compliance with the applicable NELAC or TNI Standard requirements.

As part of the Quality Systems Review, the AB shall check and document that the laboratory maintains an SOP and documentation of a DOC for all methods. For ABs that do not require or offer accreditation for preparation methods, the AB shall ensure that the laboratory has an SOP and applicable DOC documentation for each preparation method that the laboratory performs.

1.2 Method Assessment

Method assessments are the key step in an on-site assessment used to determine a laboratory's compliance with the particular methods for which the laboratory seeks to obtain or maintain accreditation, heretofore referred to as "methods." The terminology of "performing an on-site" for a particular method can easily be misunderstood or misinterpreted. This Policy defines the requirements for NELAP ABs when performing a method assessment. The elements described in the method assessment can be performed remotely (off-site) or at the laboratory (on-site).

The following elements are mandatory for the assessment of a method by NELAP ABs:

1.2.1 SOP Review – Laboratories are required to have and maintain accurate Standard Operating Procedures ("SOPs") for all methods. Part of the method assessment is confirmation of an SOP that meets the requirements of the TNI Standard, the method, and any other regulatory requirements.

1.2.2 Data Audit – Laboratories are required to meet the documentation requirements of the NELAC or TNI Standard. These documentation requirements include the historical reconstruction of all laboratory activities. The NELAP AB must perform a data audit of selected method(s) as defined in Section 2.0 of this Policy. The data audit includes a "cradle to grave" evaluation of one data package or batch of data for each selected method. The documentation and data to be included in a data audit include those records that are necessary for historical reconstruction of the laboratory activities, including but not necessarily limited to:

- Sample collection, handling, and acceptance, including Chain-of-Custody documentation
- Instrument Calibration and associated Quality Control
- Sample Preparation, Analysis, and Data Reduction

- Reagent and Standard Preparation and Documentation
- Support Equipment and Maintenance/Calibration Records, etc.
- Final Reports and other Reporting Procedures

1.2.3 Training Records – Laboratories are required to ensure that all analysts demonstrate capability for their responsibilities. The NELAP AB must review the initial, or continuing, demonstration of capability records for one or more of the laboratory's analysts assigned to perform the selected method(s).

1.2.4 Interview – Laboratories are required to be furnished with all necessary equipment and materials for the performance of the test. The laboratory is also required to ensure that the analyst can perform the method in accordance with the Standard, method, and regulatory requirements. The NELAP AB must perform an interview that will determine the laboratory's compliance with these elements. The AB should interview an analyst that regularly performs the method. Preferably, the AB will interview the primary and/or secondary analysts. However, if one or more of these individuals are not available, any trained individual can be interviewed.

It is not recommended that the AB interview the Quality Assurance staff or area supervisor instead of a trained analyst or technical staff.

2.0 Categorization and Selection of Analytical Methods

Ideally, the AB performs a method assessment of every method. However, this expectation is not practical or required. The criteria described in this Policy shall be used as the baseline, or minimum requirement, for all NELAP ABs to use in developing their individual assessment procedures and protocols for selection of methods for an assessment. The AB may develop an increased sampling strategy for the selection of methods to be assessed.

2.1 The AB shall select methods based on the laboratory's Scope of Accreditation, more specifically based on the technologies, scientific disciplines, and matrices within that Scope of Accreditation. See Appendix A of this Policy for further descriptions of the technologies and scientific disciplines.

2.1.1 Technology – The AB shall identify the technologies for each method based on the listings itemized in Appendix A of this Policy. TNI has developed a Technology Table to describe the various methods within the LAMS database. However, these technology designations more specifically describe details of the analytical methods than are necessary for the determination "technology" for a method assessment.

The AB shall select at least one method from each applicable technology. When the selected method includes the preparation steps, these preparation procedures and associated records, shall be included in the AB's method assessment. If the method uses a technology that is not listed in Appendix A, the AB shall consider this a unique technology that requires a method assessment.

For the purposes of this Policy, purgeable organics methods are a unique technology separate from extractable and semi-volatile organics methods.

2.1.2 Scientific Discipline – The AB must identify the Scientific Disciplines within the laboratory's Scope of Accreditation. The Scientific Disciplines are more general than technologies and are identified in Appendix A.

2.1.3 Matrix – The AB must identify the matrix or matrices for which the laboratory seeks accreditation. The AB shall pick a representative selection of methods within a given matrix in order to ensure adequate assessment of the laboratory's Scope of Accreditation. The following matrices apply:

- Drinking Water ("DW")
- Non-Potable Water ("NPW")
- Solid & Chemical Materials ("SCM")
- Biological Tissue ("BT")
- Air
- Other

2.2 When a laboratory's Scope of Accreditation includes a single Matrix, the AB shall select one method from each Technology for the method assessment.

2.3 When a laboratory's Scope of Accreditation includes multiple Matrices, the AB shall equally distribute the selected methods from the applicable Technology/Matrix combinations.

2.3.1 When the laboratory's accreditation includes DW in addition to other non-DW matrices, the AB shall choose one method for each of the laboratory's Technologies from the DW matrix.

2.3.2 The AB shall choose at least one method from the laboratory's Technologies from each non-DW Matrix for each of the Scientific Disciplines as listed in Appendix A.

2.4 The AB shall review past/previous on-site assessment records during the planning of subsequent reassessments and choose different methods, if possible, for the method assessments. The goal should be to assess all methods in each matrix over the course of reassessments. The Scope of the laboratory's accreditation will usually dictate how many reassessments are necessary to achieve this goal.

3.0 Method-Defined Parameters and other Procedural-Specific Methods

The AB shall perform a method assessment for all methods that are determined to be method-defined parameters by the USEPA or procedural-specific methods as determined by the NELAP AC.

3.1 Method-Defined Parameters

Some methods are defined by the USEPA as "method-defined." The USEPA website states, "Method-defined parameters are physical or chemical properties of materials determined with specific methods used to evaluate whether the materials comply with certain RCRA Subtitle C regulations. Method defined parameters can only be determined by the methods prescribed in RCRA regulations because the methods are part of the regulations. These methods must be followed exactly as written." The method-defined parameters can be found at 40 CFR Section 260.11.

3.2 Procedural-Specific Methods

The term "procedural-specific" is a term defined in this Policy to describe methods that are unusual in nature and that the NELAP AC has agreed shall be assessed during every on-site. The NELAP AC reserves the right to update this list as needed

by majority vote during regular AC meetings and a formal update to this Policy is not required. These methods include: BOD, CBOD, TCLP, SPLP, and any other leachate procedures, all microbiology methods, XXX.

4.0 Characterization and Selection of Preparation Methods

Preparation methods are those methods that do not include the analytical steps necessary to obtain a final result. The AB shall determine the preparation methods that the laboratory performs (or seeks accreditation, depending on the ABs accreditation offerings and requirements).

4.1 Preparation methods fall into the following categories:

- Hot-Block/Hot-Plate Digestion
- Distillation
- Sonication
- Liquid-Liquid Extraction
- Solid-Phase Extraction
- Microwave Digestion
- Soxhlet Extraction
- Purge and Trap
- Other

4.2 The AB shall select at least one preparation method from each preparation category for each matrix that the laboratory performs in each Scientific Discipline as listed in Appendix A. The AB is not required to assess every preparation method during every initial or reassessment

5.0 Regulated Drinking Water Methods

The USEPA mandates that all regulated DW methods be part of the initial and subsequent reassessments. All NELAP ABs are expected to comply with this EPA mandate and include all regulated DW water test methods in each initial assessment and each subsequent reassessment. Compliance with the on-site assessment requirements for the purposes of the USEPA's "perform an on-site for all accredited DW methods" requirement is different than those established in section 1.0 of this Policy.

For regulated DW methods, the AB must perform a method assessment (as defined in section 1.2) for one method for every Technology listed in Appendix A in the DW matrix. The AB must also perform either a data audit of at least one data package or analytical batch of data (as described in section 1.2.2) or an interview (as described in section 1.2.4) for each regulated DW method that the laboratory seeks to obtain or maintain accreditation in the DW matrix.

6.0 Documentation Requirements

6.1 The ABs shall develop procedures for documentation of their assessment activities to demonstrate compliance with this Policy.

6.2 The AB may choose to document the accreditation of preparation methods in a Scope of Accreditation, Accreditation Certificate, Annual Certified Parameter List, etc. The accreditation of preparation methods is not a requirement for a NELAP AB.

6.3 ABs that do not offer or require the accreditation of preparation methods must develop procedures for recording and maintaining documentation of the methods for which the laboratory seeks to obtain or maintain “approval” or “capability” to perform. Since some ABs require the accreditation of preparation methods, all NELAP ABs must have and make this information available upon request.

VI. REFERENCES

TNI Environmental Laboratory Sector Standard, Volume 2, Modules 1 and 3

VII. DISPUTES

Disputes between or among NELAP accreditation bodies relating to this policy shall be resolved according to the appropriate TNI policy or procedure.

VIII. EFFECTIVE DATE

This policy remains in effect until amended or revoked by the NELAP Accreditation Council.

Policy Approved Changes

Prev. Policy No.	New Policy No.	Date of Change	Description of Change

TNI OSA Technologies

Scientific Discipline	Technology	Description	Abbreviation
Non-Metals/Wet Chemistry	Titration	Amperometric Titration	AMP
Non-Metals/Wet Chemistry	Titration	Coulometric Titration	COUL
Non-Metals/Wet Chemistry	Titration	Titrimetry - Visual Indicator	TITR
Non-Metals/Wet Chemistry	TOX	Total Organic Halide	TOX
Non-Metals/Wet Chemistry	Auto Spectrometer	Auto Analyzer	AUTO
Non-Metals/Wet Chemistry	Manual Spectrometer	Ultraviolet or Visible Molecular Absorption Spectrometer	UV-VIS
Non-Metals/Wet Chemistry	Manual Spectrometer	Ultraviolet or Visible Molecular Fluorescence Spectrometry	FLUOR
Non-Metals/Wet Chemistry	DO Sensor	Galvanic Probe	GALV
Non-Metals/Wet Chemistry	DO Sensor	Polarographic Probe	POL
Non-Metals/Wet Chemistry	DO Sensor	Luminescence-based Sensor Procedure	LSP
Non-Metals/Wet Chemistry	ISE	Ion Selective Electrode	ISE
Non-Metals/Wet Chemistry	IC	Ion Chromatography Electroconductivity	IC-COND
Non-Metals/Wet Chemistry	IC	Ion Chromatography Ultraviolet/Visible Molecular Absorption	IC-UV
Non-Metals/Wet Chemistry	IC-MS	Ion Chromatography Mass Spectrometry	IC-MS
Non-Metals/Wet Chemistry	IC-MS-MS	Ion Chromatography - Tandem Mass Spectrometer	IC-MS-MS
Non-Metals/Wet Chemistry	TOC	Total Organic Carbon - Flame Ionization Detector	TOC-FID
Non-Metals/Wet Chemistry	TOC	Total Organic Carbon - Membrane Conductivity	TOC-COND
Non-Metals/Wet Chemistry	TOC	Total Organic Carbon - Nondispersive Infrared Detector	TOC-IR
Non-Metals/Wet Chemistry	TOC	Total Organic Carbon - UV Spectrometer	TOC-UV

Non-Metals/Wet Chemistry	Physical Properties	Calorimetric (Temperature, Flash Point, etc)	CAL
Non-Metals/Wet Chemistry	Physical Properties	Conductance	COND
Non-Metals/Wet Chemistry	Physical Properties	Turbidity	TURB
Non-Metals/Wet Chemistry	Physical Properties	Physical Properties	PHYS
Non-Metals/Wet Chemistry	Gravimetric	Gravimetry	GRAV
		Anodic Stripping Voltameter	ASV
		Capillary Electrophoresis - Ultraviolet/Visible Molecular Absorption	CE-UV
		Differential Pulse Polarography	DPP
		Neutron Activation Analysis	NAA
		X-Ray Fluorescence Spectrometer	XRF
		X-Ray Transmission Spectrometer	XRT
Trace Metals	AA	Atomic Absorption - Flame Spectrometer	FAAS
Trace Metals	AA	Atomic Absorption - Graphite Furnace Spectrometer	GFAAS
Trace Metals	AA	Atomic Absorption - Hydride Generation Spectrometer	HGAAS
Trace Metals	AA-CVP	Atomic Absorption - Cold Vapor Spectrometry	CVAAS
Trace Metals	AF-CVP	Atomic Fluorescence - Cold Vapor Spectrometer	CVAFS
Trace Metals	ICP	Atomic Emission - Inductively Coupled Plasma Spectrometer	ICP-AES
Trace Metals	ICP-MS	Mass Spectrometry - Inductively Coupled Plasma	ICP-MS
Trace Metals	ICP-MS	Inductively Coupled Plasma Spectrometer - Chemical Reaction Cell	ICP-MS-CRC
Trace Metals		Atomic Emission - Direct Current Plasma Spectrometer	DCP-AES
Trace Metals		Atomic Emission - Flame Spectrometer	FAES
Organics	GC	Gas Chromatography - Atomic Emission Detector	GC-AED
Organics	GC	Gas Chromatography - Electrolytic Conductivity Detector	GC-ELCD

Organics	GC	Gas Chromatography - Electrolytic Conductivity/Photoionization Detector	GC-ELCD-PID
Organics	GC	Gas Chromatography - Electron Capture Detector	GC-ECD
Organics	GC	Gas Chromatography - Electron Capture/Flame Ionization Detector	GC-ECD-FID
Organics	GC	Gas Chromatography - Flame Ionization Detector	GC-FID
Organics	GC	Gas Chromatography - Flame Photometric Detector	GC-FPD
Organics	GC	Gas Chromatography - Fourier Transform Infrared Spectrometer	GC-FTIR
Organics	GC	Gas Chromatography - Nitrogen Phosphorus Detector	GC-NPD
Organics	GC	Gas Chromatography - Photoionization Detector	GC-PID
Organics	GC-MS	Gas Chromatography - Mass Spectrometer	GC-MS
Organics	GC-HRMS	Gas Chromatography - Mass Spectrometer - High Resolution	GC-HRMS
Organics	GC-MS-MS	Gas Chromatography - Tandem Mass Spectrometer	GC-MS-MS
Organics	HPLC	High Performance Liquid Chromatography - Electrochemical	HPLC-ELEC
Organics	HPLC	High Performance Liquid Chromatography - Evaporative Light Scattering Detector	HPLC-ELSC
Organics	HPLC	High Performance Liquid Chromatography - Infrared Molecular Absorption	HPLC-IR
Organics	HPLC	High Performance Liquid Chromatography - Ultraviolet/Visible Molecular Absorption	HPLC-UV
Organics	HPLC	High Performance Liquid Chromatography - Ultraviolet/Visible Molecular Fluorescence	HPLC-FLUOR
Organics	HPLC	High Performance Liquid Chromatography - Photodiode Array UV Spectrometer	HPLC-PDAUV

Organics	HPLC-MS	High Performance Liquid Chromatography - Electrospray Mass Spectrometer	HPLC-ESMS
Organics	HPLC-MS	High Performance Liquid Chromatography - Mass Spectrometer - Particle Beam	HPLC-PBMS
Organics	HPLC-MS	High Performance Liquid Chromatography - Mass Spectrometer - Thermospray	HPLC-TSMS
Organics	HPLC-MS-MS	High Performance Liquid Chromatography - Tandem Mass Spectrometer	HPLC-MS-MS
Organics	IR	Infrared Spectrometer	IR
Microbiology		Chromofluorogenic - Qualitative	CF-QL
Microbiology		Chromofluorogenic - Quantitative	CF-QN
Microbiology		Chromogenic - Quantitray	C-QT-QN
Microbiology		Chromogenic/MPN - Quantitative	C-QN
Microbiology		Fluorogenic (P/A) - Qualitative	F-QL
Microbiology		Fluorogenic - Quantitray	F-QT-QN
Microbiology		Fluorogenic(HPC) - Quantitative	F-HPC-QN
Microbiology		Fluorogenic/MPN - Quantitative	F-QN
Microbiology		Fermentation Broth - Qualitative	FB-LE-QL
Microbiology		Fermentation Broth - Quantitative	FB-QN
Microbiology		Fermentation Broth(A-1) - Quantitative	FB-A1-QN
Microbiology		Fermentation Broth(PA) - Qualitative	FB-PAE-QL
Microbiology		Fermentation Broth(PA)+Fluorogenic - Qualitative	FB-PAF-QL
Microbiology		Fermentation Broth+Fluorogenic - Qualitative	FB-F-QL
Microbiology		Fermentation Broth+Fluorogenic - Quantitative	FB-F-QN
Microbiology		Membrane Filtration - Qualitative	MF-QL

Microbiology		Membrane Filtration - Quantitative	MF-QN
Microbiology		Membrane Filtration(2-Step) - Quantitative	MF-2S-QN
Microbiology		Membrane Filtration(m-TEC) - Quantitative	MF-MTEC-QN
Microbiology		Membrane Filtration(Mei) - Quantitative	MF-MEI-QN
Microbiology		Membrane Filtration+Fermentation Broth - Qualitative	MF-E-QL
Microbiology		Membrane Filtration+Fermentation Broth - Quantitative	MF-E-QN
Microbiology		Membrane Filtration+Fluorogenic - Qualitative	MF-F-QL
Microbiology		Membrane Filtration+Fluorogenic - Quantitative	MF-F-QN
Microbiology		Pour Plate - Quantitative	PP-QN
Microbiology		Spread Plate - Quantitative	SP-QN
Microbiology		Filtration/FA/IMS/FA/Viability	FFIFV
Microbiology		Plaque Counts(2-Step) - Quantitative	PQ-2S-QN
Microbiology		Plaque Counts(Single Layer) - Quantitative	PQ-SL-QN
W.E.T.T	WETT	Toxicity Testing	BioTox
Asbestos		Phase Contrast Microscope	PCM
Asbestos		Polarized Light Microscope	PLM
Asbestos		Scanning Electron Microscope	SEM
Asbestos		Transmission Electron Microscope	TEM
Radiochemistry		Alpha Scintillation Cell Counter	ASC
Radiochemistry		Alpha Spectrometry	AS
Radiochemistry		Beta Spectrometry	BETA
Radiochemistry		Beta/Gamma Coincidence Scintillation Counter	BGCS
Radiochemistry		Gamma Spectrometer - High Resolution	GS-HR
Radiochemistry		Gamma Spectrometer - Low Resolution	GS-LR
Radiochemistry		Laser Phosphorimetry	LP
Radiochemistry		Liquid Scintillation Counter	LSC
Radiochemistry		Proportional Counter	PC

		Calculation	CALC
		Filtration-Immunomagnetic Separation - Immunoflourescence Assay	IMS-FA
		Immunoassay	IMM
		Other	Other