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Guide To Reporting PT Data

Wibby Environmental PT samples are designed to meet the PT requirements of all major accrediting agencies including NELAC states and non-NELAC states.

How PT analytes are reported and scored in the NELAC PT program differs from state specific programs. The first step in successfully reporting PT results is knowing whether an analyte or standard is in the NELAC program or a state specific PT program.

To assist you in making this determination we have attached tables to this Guide that list out the types of standards in our WP, WS, SOIL and UST programs. All standards and analytes in our AIR and Biosolids PT studies are state specific. Tables of concentration ranges and PTRLs are posted on our web site www.wibby.com. Click on the "PT" link in the blue bar that runs horizontally below our logo on the home page then on the applicable study type in the "PT Concentration Ranges & PTRLs" box. As shown in these tables when a standard contains both NELAC and state specific analytes, NELAC accreditation analytes are listed first, followed by NELAC experimental analytes then state specific analytes.

The first section of this Guide describes how to report a result when the analyte is present in the PT standard. The second section describes how to report your data when the analyte is not present in the standard. The third sections describe Proficiency Testing Reporting Limits (PTRLs).

REPORTING QUANTITATIVE RESULTS

1. NELAC AND STATE SPECIFIC INORGANIC ANALYTES – With one exception, all inorganic analytes (both NELAC and State Specific) in all WP, WS, SOIL/HW, UST, Air and Biosolids standards will be in all PT standards. The one exception to this rule is the SOIL/HW Sand, Silt and Clay standard. Outside of this exception a lab must report a quantitative result within the acceptance limits to receive an Acceptable evaluation for an inorganic analyte.
2. NELAC ORGANIC ANALYTES – The following standards all contain ten or less NELAC analytes. Therefore all NELAC (both accreditation and experimental) analytes in these standards will be present in every lot. A lab must report a quantitative result within the acceptance limits to receive an Acceptable evaluation for every NELAC organic analyte in these standards.

WP VOAs – GC

WS Semivolatiles II (Phthalates/Adipates)

WP VOAs – Crossover

WS Semivolatiles III (all three ampules)

WP Chlordane

WS Organic Disinfection By Products

WP Toxaphene

WS Chloral Hydrate

WP Herbicides

WS Gasoline Additives

WP GRO

WS OPP/NPP

WP DRO

SOIL/HW VOAs – GC

WS THMs

SOIL/HW VOAs – Crossover

WS Toxaphene

SOIL/HW Chlordane

WS EDB/DBCP

SOIL/HW Toxaphene

WS PCBs as Decachlorobiphenyl

SOIL/HW Herbicides

WS Carbamates

SOIL/HW OPPs

REPORTING QUANTITATIVE AND NON-DETECT RESULTS IN THE SAME PT STANDARD

1. **NELAC ORGANIC ANALYTES in all other WP, WS, WP, WS, and SOIL/HW standards** will be present following the 100/80/60 rule. The rule is applied as described below.
 - a. Add up all of the NELAC accreditation and experimental analytes listed on the data reporting sheet.
 - b. If the total number of NELAC accreditation and experimental analytes is 21 or more, a minimum of 60% of the NELAC analytes will be present in the standard.
 - c. If between 11 and 20 NELAC accreditation and experimental analytes are listed on the data reporting sheet, a minimum of 80% of the NELAC analytes will be present in the standard.
 - d. If between 1 and 10 NELAC accreditation and experimental analytes are listed on the data reporting sheet, 100% of the NELAC analytes will be present in the standard. These standards are listed in 2. of the "REPORTING QUANTITATIVE RESULTS" section above.
 - e. The only exception to the 100/80/60 rule are the PCBs in Water and PCBs in Oil standards. These standards each contain a single Aroclor from the list shown on the data reporting sheet.

If a NELAC analyte is detected above the Proficiency Testing Reporting Limit (PTRL, see following section "UNDERSTANDING PROFICIENCY TESTING REPORTING LIMITS") it should be reported. If a NELAC analyte is detected below the PTRL it should be reported as <PTRL or 0. We recommend reporting using <PTRL as it will enable the laboratory to become familiar and comfortable with using PTRLs. All NELAC analytes have PTRLs except for those analytes without practical detection limits (e.g., pH). A complete list of PTRLs is available at www.wibby.com.

2. **ORGANIC STATE SPECIFIC ANALYTES in the WP, WS and SOIL/HW standards** are not counted when calculating the number of analytes for the 100/80/60 rule. There are no hard and fast guidelines for the number of organic state specific analytes present in a sample. NOTE: Laboratories that are NELAC accredited do not need to report state specific analytes in a PT study. If a state specific analyte is detected above the lab's MDL, it should be reported. Otherwise a state specific analyte should be reported as <MDL.
3. **UST Standards** – Gasoline (GRO), Diesel (DRO), Total Petroleum Hydrocarbons (TPH) and Oil and Grease PT standards in the UST water and soil studies are NELAC compliant standards. NELAC labs are only required to report results for gasoline, diesel, TPH and Oil and Grease in these standards, respectively. All other UST analytes and standards are used for fulfilling state specific accreditation requirements. The rules for reporting UST

analytes are the same as those described in 1. and 2. of this section (“REPORTING QUANTITATIVE AND NON-DETECT RESULTS IN THE SAME PT STANDARD”).

4. **AIR and BIOSOLIDS Standards** – All Air and Biosolids standards and analytes fall outside of the NELAC PT program. If an AIR or BIOSOLIDS analyte is detected above the lab’s MDL, it should be reported. Otherwise it should be reported as <MDL.

UNDERSTANDING PROFICIENCY TESTING REPORTING LIMITS (PTRL)

Proficiency Testing Reporting Limits (PTRL) are only applicable to NELAC analytes. As included in the footnotes to the NELAC PT Fields of Testing tables,

“NELAC Proficiency Testing Reporting Limits (PTRLs) are provided as guidance to laboratories analyzing NELAC PT samples. These levels are the lowest acceptable results that could be obtained from the lowest spike level for each analyte. The laboratory should report any positive result down to the PTRL. It is recognized that in some cases (especially for analytes that typically exhibit low recovery) the PTRL may be below the standard laboratory reporting limit. However, the laboratory should use a method that is sensitive enough to generate results at the PTRL shown.”

As stated in the NELAC PT tables, the PTRL is “are the lowest acceptable result that could be obtained from the lowest spike level for each analyte.” When an analyte may or may not be present (see “REPORTING QUANTITATIVE AND NON-DETECT RESULTS IN THE SAME PT STANDARD”) the PTRL should be used as a line of demarcation for making decisions on whether or not to report a quantitative result. For example, the laboratory’s MDL is 10, the PTRL is 50 and the lab detects 35. In this instance we recommend the laboratory report <50 as all quantitative results below 50 are by definition “Not Acceptable”.

The question on how to handle a situation where an analyte is in a PT standard but at a concentration that is between the lab’s reporting limit and the PTRL (e.g., the lab’s result is <500, the PT made-to value is 300, and the PTRL is 100) is more complicated. Guidance on how to handle these situations follows.

NELAC ANALYTES – Currently, a lab’s MDL does not impact reporting results for NELAC PT analytes. The PTRL is the overriding reporting limit. This is an artifact of the NELAC PT program’s “one size fits all methods” philosophy (e.g. one concentration range must work for all methods). This problem has been addressed in the new TNI standard, which won’t be in effect until 2010 or later. In the interim, a laboratory can adjust how they run a method in order to be able to report quantitative results down to the PTRL. This modification from the normal operating procedures is allowed by NELAC policy. Therefore in the example shown above the laboratory would receive a “Not Acceptable” evaluation if they reported <500. The laboratory should adjust their operating procedure to lower their MDL to the PTRL of 100.

STATE SPECIFIC ANALYTES - For state specific analytes, the rule currently used is based on NELAC BOD Policy #16. This rule states that if the lab reported <500 and the analyte was present, if the upper limit is 500 or greater than the result is “Acceptable”. If the upper limit is <500 than the result is “Not Acceptable”. Wibby Environmental will implement the new TNI (The NELAC Institute) PT criteria for evaluating non-detect results beginning in April 2008. Using the TNI criteria a laboratory will receive an “Acceptable” evaluation when they report <MDL even if the analyte is present below their MDL.

SUMMARY OF WP PT SAMPLE FORMULATION

WP Standards	
<p>WP Standards that contain only NELAC Analytes</p>	<p><i>Inorganics</i></p> <p>WP Trace Metals, WP Mercury, WP Sn & Ti, WP Cr 6+, WP Demand, WP Specific Conductance, WP Solids, WP Nutrients #1, WP Nutrients #2, WP Nutrients #3, WP Oil and Grease, WP Residual Chlorine, WP pH, WP Cyanide, WP Phenolics, WP Sulfide, WP Surfactants (MBAS), WP TPH, WP Volatile Solids, WP Acidity, WP Turbidity, WP Silica, WP TOX, WP Color</p> <p><i>Organics</i></p> <p>WP VOAs – Crossover, WP Pesticides, WP Chlordane, WP Toxaphene, WP PCBs in Water, WP PCBs in Oil, WP PAHs, WP Explosives, WP OPPs, WP GRO, WP DRO, WP PAHs GC</p>
<p>WP Standards that contain NELAC and State Specific Analytes</p>	<p><i>Inorganics</i></p> <p>WP Minerals</p> <p><i>Organics</i></p> <p>WP VOAs, WP VOAs – GC, WP BN, WP Acids, WP Herbicides</p>
<p>WP Standards that contain only State Specific Analytes</p>	<p><i>Inorganics</i></p> <p>WP Mercury – Low Level, WP Settleable Solids, WP Perchlorate, WP Silicon</p> <p><i>Organics</i></p> <p>WP Carbamates, WP Nitrogen Pesticides, WP Wisconsin Nitrogen Pesticides, WP Wisconsin Triazine Pesticides, WP Formaldehyde</p>

SUMMARY OF WS PT SAMPLE FORMULATION

WS Standards	
WS Standards that contain only NELAC Analytes	<p><i>Inorganics</i></p> <p>WS Trace Metals, WS Mercury, WS Minerals, WS Anions, WS Cyanide, WS pH, WS Residual Chlorine, WS TOC/DOC, WS Turbidity, WS IDB, WS Surfactants (MBAS), WS Silica, WS Perchlorate, WS UV254, WS Cr 6+</p> <p><i>Organics</i></p> <p>WS Regulated VOAs, WS Unregulated VOAs, WS Chlordane, WS Toxaphene, WS EDB/DBCP/TCP, WS PCBs as Decachlorobiphenyl, WS Carbamates, WS SV1, WS SV3, WS ODB, WS Chloral Hydrate</p>
WS Standards that contain NELAC and State Specific Analytes	<p><i>Organics</i></p> <p>WS THMs, WS Pesticides, WS Herbicides, WS SV2, WS Gasoline Additives, WS OPP/NPP</p>
WS Standards that contain only State Specific Analytes	<p><i>Inorganics</i></p> <p>WS Vanadium, WS Uranium, WS, WS Color, WS Perchlorate – Massachusetts, WS Formaldehyde, WS Sulfite</p> <p><i>Organics</i></p> <p>WS Formaldehyde</p>

SUMMARY OF SOIL/HW PT SAMPLE FORMULATION

SOIL/HW Standards	
SOIL Standards that contain only NELAC Analytes	<p><i>Inorganics</i></p> <p>SOIL Metals, SOIL Cr6+, SOIL Cyanide, SOIL Anions, SOIL Nutrients, SOIL Flash Point, SOIL Corrosivity/pH,</p> <p><i>Organics</i></p> <p>SOIL VOAs – Crossover, SOIL Pesticides, SOIL Chlordane, SOIL Toxaphene, SOIL OPPs, SOIL PAHs, - GC,</p>
SOIL Standards that contain NELAC and State Specific Analytes	<p><i>Organics</i></p> <p>SOIL VOAs, SOIL Medium Level VOAs, SOIL VOAs – GC, SOIL BNAs, SOIL PCBs, SOIL Herbicides, SOIL PAHs,</p>
SOIL Standards that contain only State Specific Analytes	<p><i>Inorganics</i></p> <p>SOIL Reactive Cyanide, SOIL Total Sulfide, SOIL Reactive Sulfide, SOIL Perchlorate, SOIL Solids, SOIL Volatile Solids, SOIL Particle Size, SOIL Sand, Silt, Clay, SOIL Conductivity, SOIL TCLP Metals</p> <p><i>Organics</i></p> <p>SOIL Carbamates, SOIL TCLP VOAs, SOIL TCLP BNAs, SOIL TCLP BTEX, SOIL TCLP Pesticides, SOIL TCLP Herbicides</p>

SUMMARY OF UST PT SAMPLE FORMULATION

UST Standards	
UST Standards that contain only NELAC Analytes	UST TPH, UST Oil and Grease, UST BTEX
UST Standards that contain NELAC and State Specific Analytes	UST Gasoline, UST Diesel, UST Gasoline Additives
UST Standards that contain only State Specific Analytes	UST VPH, UST EPH, UST Wisconsin GRO, UST Wisconsin DRO, UST TX 1005, UST Alaska GRO, UST Alaska DRO, UST RRO, UST Arizona TPH

Need additional help with your PT Studies?

Don't hesitate to contact

**Wibby Environmental Customer and Technical
Service at 1-866-WibbyPT (866-942-2978).**