

Required Proficiency Testing Samples for Inorganic (Non-Metals) Analytes

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|---|-------|--------------------------------|-----------|-------|----------|-----|-----|-------|-----|-------|------|
| Colorimetric or Nephelometric (Turbidimetric) | | | | | | | | | | | |
| | | Kjeldahl Nitrogen, Total (TKN) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrate + Nitrite | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrite | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Orthophosphate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Phenolics, Total | PHENOLICS | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Phosphorus, Total | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Silica | SILICA | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Sulfate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Surfactants | MBAS | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Turbidity | TURBIDITY | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |

¹Proficiency testing samples for colorimetric metals (except hexavalent chromium) are exempted from PT requirements in s. NR 149.22 (3)(a) 2. Laboratories certified or registered for colorimetric metals other than hexavalent chromium must analyze quality control samples (QCS) 3 times per year at evenly spaced intervals in lieu of PTs.

**TABLE 3
COMBUSTION OR OXIDATION**

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|-------------------------|-------------------|------------------------------|--------|-------|----------|-----|-----|-------|-----|-------|------|
| Combustion or Oxidation | | | | | | | | | | | |
| | General Chemistry | | | | | | | | | | |
| | | Organic Carbon, Total (TOC) | DEMAND | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Organic Halides, Total (TOX) | TOX | Yes | -Y- | -Y- | -Y- | -N- | -Y- | -Y- | -N- |

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TABLE 4
ELECTROMETRIC ASSAYS

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|----------------------|-------|--------------------------------|----------|-------|----------|-----|-----|-------|-----|-------|------|
| Electrometric Assays | | | | | | | | | | | |
| General Chemistry | | | | | | | | | | | |
| | | Ammonia as N | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Chloride | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Chlorine, Total Residual | CHLORINE | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Cyanide, Total | CYANIDE | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Fluoride | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Kjeldahl Nitrogen, Total (TKN) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | pH | pH | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Specific Conductance | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |

TABLE 5
GRAVIMETRIC ASSAYS— RESIDUE

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|----------------------|-------|------------------------------|----------|-------|----------|-----|-----|-------|-----|-------|------|
| Gravimetric Assays | | | | | | | | | | | |
| General Chemistry | | | | | | | | | | | |
| | | Residue, Filterable (TDS) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Residue, Nonfilterable (TSS) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Sulfate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |

TABLE 6
GRAVIMETRIC ASSAYS— OIL & GREASE

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|----------------------|-------|--|----------|-------|----------|-----|-----|-------|-----|-------|------|
| Gravimetric Assays | | | | | | | | | | | |
| General Chemistry | | | | | | | | | | | |
| | | Oil & Grease, Hexane Extractable Materials (HEM) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |

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**TABLE 7
ION CHROMATOGRAPHY**

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|----------------------|-------|-------------------|----------|-------|----------|-----|-----|-------|-----|-------|------|
| Ion Chromatography | | | | | | | | | | | |
| General Chemistry | | | | | | | | | | | |
| | | Ammonia | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Bromide | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Chloride | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Fluoride | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrate + Nitrite | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Nitrite | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Orthophosphate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Sulfate | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |

**TABLE 8
TITRIMETRIC OR POTENTIOMETRIC TITRATION ASSAYS**

| Analytical Technique | Class | Analyte | PT | Req'd | Absolute | ERA | NSI | NYDoH | RTC | Wibby | WSLH |
|--|-------|--------------------------------------|----------|-------|----------|-----|-----|-------|-----|-------|------|
| Titrimetric or Potentiometric Titrimetric Assays | | | | | | | | | | | |
| General Chemistry | | | | | | | | | | | |
| | | Acidity as CaCO ₃ | ACIDITY | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Alkalinity | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Ammonia as N | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Bromide | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -N- |
| | | Chemical Oxygen Demand (COD) | DEMAND | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Chloride | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Chlorine, Total Residual | CHLORINE | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Cyanide, Total | CYANIDE | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Hardness, Total as CaCO ₃ | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |
| | | Kjeldahl Nitrogen, Total (TKN) | TABLE 22 | Yes | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- | -Y- |

Table 22: PT Sample Formulations

Each approved proficiency testing provider offers inorganic analytes (general chemistry and metallic) analytes in mixes or as individual analytes. This table identifies the PT in which each of these analytes is available. Common abbreviations used: In Nutrient (Inorganic Nutrients), Simple Nutr (Simple Nutrients), Org Nutrient (Organic Nutrients), and Complex Nu (Complex Nutrients).

| Analyte | Absolute | ERA | NSI | NY DoH | RTC | WIBBY | WSLH |
|--|--|-----------------|---------------------|------------------|---------------------------|--------------|----------------------|
| Acidity as CaCO ₃ | Acidity | Acidity | Acidity | Not Avail | Acidity | Acidity | Not Avail |
| Alkalinity | Minerals #2 | Minerals | Minerals | Alkalinity | Minerals | Minerals | Not Avail |
| Ammonia as N | In Nutrient | Simple Nutr | Simple Nutr | In Nutrient | Simple Nutr | Nutrients | Nutrients A |
| Biochemical Oxygen Demand | Demand | Demand | Demand | Demand | Demand | Demand | BOD/COD |
| Bromide | Anions | Bromide | Bromide | Not Avail | Anions Bromide | Minerals | Not Avail |
| Carbonaceous BOD | Demand | Demand | Demand | Demand | Demand | Demand | BOD/COD |
| Chemical Oxygen Demand | Demand | Demand | Demand | Demand | Demand | Demand | BOD/COD |
| Chloride | Minerals #1 | Minerals | Minerals | Minerals | Minerals | Minerals | Cl/F/SO ₄ |
| Chlorine, Total Residual | TRC | TRC | TRC | Not Avail | TRC | TRC | TRC |
| Cyanide, Total | Cyanide | Cyanide | Cyanide | Cyanide | Cyanide | Cyanide | Cyanide |
| Fluoride | Minerals #2 | Hardness | Minerals | Minerals | Anions | Minerals | Cl/F/SO ₄ |
| Hardness, Total as CaCO ₃ | Minerals #1 | Hardness | Hardness | Minerals II | Minerals | Minerals | Hardness Metals A |
| Kjeldahl Nitrogen, Total | Org Nutrient | Complex Nu | Complex Nu | Org Nutrient | Complex Nu | Nutrients | Nutrients B |
| Nitrate | In Nutrient NO ₃ + NO ₂ | Simple Nutr | Simple Nutr | In Nutrient | Anions Simple Nutr | Nutrients | Nutrients A |
| Nitrate + Nitrite | NO ₃ + NO ₂ | Simple Nutr | Simple Nutr | Not Avail | Simple Nutr | Nutrients | Nutrients A |
| Nitrite | NO ₃ + NO ₂ | NO ₂ | NO ₂ | NO ₂ | Anions NO ₂ | Nutrients | Not Avail |
| Oil and Grease, Hexane Extractable Materials | HEM | Oil & Grease | Oil & Grease | Oil & Grease | Oil & Grease | Oil & Grease | HEM |
| Organic Carbon, Total (TOC) | Demand | Demand | Demand | Demand | Demand | Demand | Not Avail |
| Organic Halides, Total (TOX) | TOX | TOX | TOX | Not Avail | TOX | TOX | Not Avail |
| Orthophosphate | In Nutrient | Simple Nutr | Simple Nutr | In Nutrient | Anions Simple Nutr | Nutrients | Not Avail |
| pH | pH | pH | pH | pH | pH | pH | pH |
| Phenolics, Total | Phenolics | Phenolics | Phenolics | Not Avail | Phenolics | Phenolics | Phenolics |
| Phosphorus, Total | Org Nutrient | Complex Nu | Complex Nu | Org Nutrient | Complex Nu | Nutrients | Nutrients B |
| Residue, Filterable (TDS) | Minerals #1 Solids | Minerals | Minerals Residue | TDS | Minerals Residue | Solids | Not Avail |
| Residue, Nonfilterable (TSS) | Solids | Hardness | Residue | Residue | Residue | Solids | TSS |
| Silica | Silica | Silica | Silica | Not Avail | Silica | Silica | Not Avail |
| Specific Conductance | Sp Conduct | Minerals | Minerals | Sp Conduct | Minerals | Minerals | Not Avail |
| Sulfate | Mineral #2 | Minerals | Minerals | Minerals | Anions | Minerals | Cl/F/SO ₄ |
| Surfactants | MBAS | MBAS | MBAS | MBAS | MBAS | MBAS | Not Avail |
| Turbidity | Turbid | Turbid | Turbid | Turbid | Turbid | Turbid | Not Avail |