**Volunteer Monitoring Lab Analysis Monitoring Suite and Prices – 2021**

|  |  |
| --- | --- |
| **Shipping:** | Energy Lab will ship bottles and coolers free of charge. The cost to ship samples to Energy Lab is $20 per cooler and shipping costs must be included in your analytical budget, if applicable. Depending on the quantity of samples collected per sampling event, more than one cooler may be necessary and shipping costs should be calculated accordingly. There is no shipping cost if samples are hand-delivered. |

| **Parameter** | **Required Method** | **Required Reporting Limit** (µg/L) | **Holding Time**  (days unless noted) | **Bottle** | **Preservative** | **Price**  ($) |
| --- | --- | --- | --- | --- | --- | --- |
| **WATER - Nutrients** | | | | | | |
| Total Persulfate Nitrogen (TN) | A4500-N C | 40 | 28 | 250 ml HDPE | ≤6oC on ice | 20 |
| Total Phosphorus as P | EPA 365.1 | 3 | 28 | 250 ml HDPE | H2SO4; ≤6oC on ice | 16 |
| Nitrate-Nitrite as N | EPA 353.2 | 10 | 20 |
| Total Ammonia as N | EPA 350.1 | 50 | 12 |
| Dissolved Orthophosphate | EPA 365.1 | 1 | 45 if frozen; 2 if on ice | 250 ml HDPE | Field filter 0.45 µm; freeze or ≤6oC on ice | 16 |
| **WATER - Common Ions, Miscellaneous** | | | | | | |
| Total Suspended Solids (TSS) | A2540 D | 4000 | 7 | 1000 ml or 500 ml HDPE | ≤6oC on ice | 12 |
| Total Dissolved Solids (TDS) | A2540 C | 4000 | 7 | 16 |
| Volatile Suspended Solids (VSS) | A2540 E | 4000 | 7 | 16 |
| Alkalinity (Bicarb., Carb.) | A2320 B | 1000 | 14 | 250 ml HDPE | ≤6oC on ice | 8 |
| Sulfate | EPA 300.0 | 50 | 28 | 8 |
| Chloride | EPA 300.0 | 50 | 28 | 8 |
| Bromide | EPA 300.0 | 50 | 28 | 8 |
| Fluoride | EPA 300.0 | 50 | 28 | 8 |
| Sulfide | A4500-S2 D | 1000 | 7 | 250 ml HDPE | Zinc Acetate + NaOH to pH >9; ≤6oC on ice | 48 |
| Biochemical Oxygen Demand (BOD5) | A5210 B | 2000 | 2 | 1000 ml HDPE | ≤6oC on ice | 40 |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) | A5210 B | 2000 | 2 | 40 |
| Total Organic Carbon (TOC) | A5310 C | 500 | 28 | 125ml amber glass | H2SO4, ≤6oC on ice | 28 |
| Dissolved Organic Carbon (DOC) | A5310 B | 500 | 28 | 125ml amber glass | Field filter 0.45 µm, H2SO4; ≤6oC on ice | 28 |
| Calcium | EPA 200.7 | 1000 | 180 | 250 ml HDPE | HNO3; ≤6oC on ice | 8 |
| Magnesium | EPA 200.7 | 1000 | 8 |
| Sodium | EPA 200.7 | 1000 | 8 |
| Potassium | EPA 200.7 | 1000 | 8 |
| Total Hardness as CaCO3 | A2340 B (Calculated) | 1000 |  |  |  | No charge if Ca and Mg are analyzed. |
| Sodium Adsorption Ratio (SAR) | Calculated |  |  |  |  | No charge if Ca, Mg and Na are analyzed. |
| **WATER - Pathogens** | | | | | | |
| *E. Coli* | A9223 B | 1 MPN/100 ml | 6 hours | 100 ml HDPE | ≤10oC; avoid freezing | 50 |
| **WATER - Dissolved Metals** | | | | | | |
| Aluminum | EPA 200.7 | 9 | 180 | 250 ml HDPE | Field filter 0.45 µm; HNO3; ≤6oC on ice | 8 |
| Arsenic | EPA 200.8 | 1 | 8 |
| Barium | EPA 200.7 | 3 | 8 |
| Cadmium | EPA 200.8 | 0.03 | 8 |
| Chromium | EPA 200.8 | 1 | 8 |
| Copper | EPA 200.8 | 1 | 8 |
| Iron | EPA 200.7 | 20 | 8 |
| Lead | EPA 200.8 | 0.3 | 8 |
| Selenium | EPA 200.8 | 1 | 8 |
| Silver | EPA 200.8 | 0.2 | 8 |
| Uranium | EPA 200.8 | 0.2 | 8 |
| Zinc | EPA 200.7 | 8 | 8 |
| **WATER - Total Recoverable Metals** (must include TR metals digestion if any of these analytes are included) | | | | | | |
| Total Recoverable Metals Digestion | EPA 200.2 | N/A | 180 | 250 ml HDPE | HNO3; ≤6oC on ice | 12 |
| Arsenic | EPA 200.8 | 1 | 8 |
| Barium | EPA 200.7 | 3 | 8 |
| Cadmium | EPA 200.8 | 0.03 | 8 |
| Chromium | EPA 200.8 | 1 | 8 |
| Copper | EPA 200.8 | 1 | 8 |
| Iron | EPA 200.7 | 20 | 8 |
| Lead | EPA 200.8 | 0.3 | 8 |
| Selenium | EPA 200.8 | 1 | 8 |
| Silver | EPA 200.8 | 0.2 | 8 |
| Uranium | EPA 200.8 | 0.2 | 8 |
| Zinc | EPA 200.7 | 8 | 8 |
| Beryllium | EPA 200.7 | 0.8 | 8 |
| Boron | EPA 200.7 | 10 | 8 |
| Manganese | EPA 200.7 | 5 | 8 |
| Nickel | EPA 200.7 | 2 | 8 |
| Strontium | EPA 200.7 | 20 | 8 |
| Thallium | EPA 200.8 | 0.2 | 8 |
| Mercury | EPA 245.1 | 0.05 | 28 | 100 ml glass | HNO3 | 20 |
| Mercury, Ultra low level | EPA 245.7 | 0.005 | 28 | 100 ml glass | 0.5 ml 12N HCl; ≤6oC on ice | 40 |
| **SEDIMENT - Total Recoverable Metals** (must include sediment metals digestion if any of these analytes are included) | | | | | | |
| Sediment Metals Digestion | A2340 B (Calculated) | 1000 | 180 | 2000 ml HDPE, widemouth | ≤6oC on ice | 12 |
| Arsenic | EPA 200.8 | 1 mg/kg dry weight | 8 |
| Cadmium | EPA 200.8 | 0.2 mg/kg dry weight | 8 |
| Chromium | EPA 200.8 | 9 mg/kg dry weight | 8 |
| Copper | EPA 200.8 | 15 mg/kg dry weight | 8 |
| Iron | EPA 200.7 | 10 mg/kg dry weight | 8 |
| Lead | EPA 200.8 | 5 mg/kg dry weight | 8 |
| Mercury | EPA 7471B | 0.05 mg/kg dry weight | 20 |
| Zinc | EPA 200.7 | 20 mg/kg dry weight | 8 |
| PCBs | EPA 8082A | 0.033 mg/kg dry weight | 28 | 125 ml glass with teflon lid | ≤6oC on ice | 96 |
| **ALGAE** | | | | | | |
| Benthic or FA Chlorophyll-a | A 10200 H |  | 45 | Hoop in ziplock, core in centrifuge tube, template in petri dish; covered in foil | Freeze | 52 |
| Ash Free Dry Weight (AFDW) benthic or FA algae | A 10300 C (5) |  | 52 |
| **PHYTOPLANKTON** | | | | | | |
| Phytoplankton Chlorophyll-a | A10200H |  |  | Filter in Petri dish; covered in foil | Freeze | 52 |
| Phytoplankton Ash Free Dry Weight (AFDW) | A10300 C(5) |  |  | 52 |