## DEQ WQPB Monitoring Suite Table

| Parameter | Preferred Method | Alternate Method | Req. Report Limit ug/L | Holding Time Days | Bottle | Preservative |
|---|---|---|---|---|---|---|
| **Water Sample - Common Ions, Physical Parameters, Miscellaneous** | | | | | | |
| Total Suspended Solids (TSS) | A2540 D | | 4000 | 7 | 1000 ml HDPE/ 500 ml HDPE | ≤6°C |
| Total Dissolved Solids (TDS) | A2540 C | | 4000 | 7 | | |
| Volatile Suspended Solids (VSS) | A2540 E | | 4000 | 7 | | |
| Alkalinity (Bicarb., Carb.) | A2320 B | EPA 310.2 | 1000 | 14 | | |
| Sulfate | EPA 300.0 | A4110 B | 50 | 28 | | |
| Chloride | EPA 300.0 | A4110 B | 50 | 28 | | |
| Bromide | EPA 300.0 | A4110 B | 50 | 28 | | |
| Fluoride | EPA 300.0 | A4110 B/A4500-F-B | 50 | 28 | | |
| *E. Coli* | A9223 B | EPA 1604/EPA 1603 | 1 MPN/100 ml | 6 hrs | 100 ml HDPE | ≤10°C |
| Biochemical Oxygen Demand (BOD) | A5210 B | | 2000 | 2 | 1000 ml HDPE | ≤6°C |
| Carbonaceous Biochemical Oxygen Demand (CBOD) | A5210 B | EPA 405.1 | | 2 | 1000 ml HDPE | ≤6°C |
| Dissolved Organic Carbon (DOC) | A5310 B | | 500 | 28 | 125ml Glass | Filt. 0.45 um, $H_2SO_4$, ≤6°C |
| Total Organic Carbon (TOC) | A5310 C | | 500 | 28 | 125ml Glass | $H_2SO_4$, ≤6°C |
| Sulfide | A4500-S2 D | | 1000 | 7 | 250 ml HDPE | Zinc Acetate + NaOH to pH >9, ≤6oC |
| **Water Sample - Nutrients** | | | | | | |
| Total Persulfate Nitrogen (TPN) | A4500-N C | A4500-N B | 40 | 28 or 45 | 250ml HDPE | ≤6°C (28d HT) or freeze (45d HT)[n] |
| Dissolved Orthophosphate as P | EPA 365.1 | A4500-P F | 1 | 2 or 45 | 250ml HDPE | Filter 0.45 um, then ≤6°C (2d HT) or freeze (45d HT) |
| Total Phosphorus as P | EPA 365.1 | A4500-P F | 3 | 28 or 45 | 250 ml HDPE | $H_2SO_4$ and hold at ≤6°C (28d HT), or freeze without preserv. (45 HT)[n] |
| Nitrate-Nitrite as N | EPA 353.2 | A4500-NO3 F | 10 | | | |
| Total Ammonia as N | EPA 350.1 | A4500-NH3 B,C,D,E,or G | 50 | | | |
| **Water Sample - Radiologic** | | | | | | |
| Alpha-Total, pCi/L | EPA 900 | SM 7110B | | 6 mo: no preservative 5 days | 1L plastic or glass | conc $HNO_3$ to pH <2 |
| Beta-Total, pCi/L | EPA 900 | SM 7110B | | 6 mo: no preservative 5 days | 1L plastic or glass | conc $HNO_3$ to pH <2 |
| Radium Total pCi/L | EPA 903.0 | SM 7500 Ra B | | 6 mo: no preservative 5 days | 1000 ml HDPE | conc $HNO_3$ or HCl to pH <2 |
| **Water Sample - Dissolved Metals (0.45 um filtered)** | | | | | | |
| Aluminum | EPA 200.7 | EPA 200.8 | 9 | 180 | 250 ml HDPE | Filt 0.45 um, $HNO_3$ pH to <2, 4°C |
| Chromium hexavalent (VI) dissolved | SM 3500-Cr-B | 3500-Cr-C, EPA 218.6 rev 3.3 1996 | 1 | 28 or 24 hr (w/out pH adjustment) | 50 ml HDPE | filter .45 um, adjust pH to 9.3-9.7 w/ buffer (supplied by lab), ≤6°C |
| **Water Sample - Total Recoverable elements**** | | | | | | |
| *Total Recoverable Metals Digestion* | EPA 200.2 | APHA3030F (b) | N/A | 180 | 500 ml HDPE/ 250 ml HDPE | $HNO_3$ pH to <2, 4°C |
| Arsenic[+] | EPA 200.8 | EPA 200.7 | 1 | | | |
| Cadmium[+] | EPA 200.8 | EPA 200.7 | 0.03 | | | |
| Calcium[+] | EPA 200.7 | | 1000 | | | |
| Chromium[+] | EPA 200.8 | EPA 200.7 | 1 | | | |
| Copper[+] | EPA 200.8 | EPA 200.7 | 1 | | | |
| Iron[+] | EPA 200.7 | | 20 | | | |
| Lead[+] | EPA 200.8 | EPA 200.7 | 0.3 | | | |
| Magnesium[+] | EPA 200.7 | | 1000 | | | |
| Potassium[+] | EPA 200.7 | | 1000 | | | |
| Selenium[+] | EPA 200.8 | EPA 200.7 | 1 | | | |
| Silver[+] | EPA 200.8 | EPA 200.7/200.9 | 0.2 | | | |
| Sodium[+] | EPA 200.7 | | 1000 | | | |
| Zinc[+] | EPA 200.7 | EPA 200.8 | 8 | | | |
| Antimony | EPA 200.8 | EPA 200.7 | 0.5 | | | |
| Barium | EPA 200.7 | EPA 200.8 | 3 | | | |
| Beryllium | EPA 200.7 | EPA 200.8 | 0.8 | | | |
| Boron | EPA 200.7 | EPA 200.8 | 10 | | | |
| Manganese | EPA 200.7 | EPA 200.8 | 5 | | | |
| Nickel | EPA 200.7 | EPA 200.8 | 2 | | | |
| Strontium | EPA 200.7 | EPA 200.8 | 20 | | | |
| Thallium | EPA 200.8 | EPA 200.7 | 0.2 | | | |
| Uranium, Natural | EPA 200.8 | | 0.2 | | | |
| **Water Sample - Total** | | | | | | |
| Mercury | EPA 245.1 | EPA 245.7 | 0.05 | 28 | HDPE, Glass | $HNO_3$ |
| Mercury, Ultra low level | EPA 245.7 | | 0.005 | 28 | 100mL Glass | 0.5 ml 12N HCl |
| **Water Sample-Organics** | | | | | | |
| Benzene, toluene, ethylbenzene, 1,3 dichlorobenzene (BTEX) | EPA 602 | EPA 624, 1624 B | 1.3 | 14 days | 3-40mL VOA, no headspace | HCl to pH ~2, cool to ≤6°C; add sodium thiosulfate if residual chlorine is present (10mg/40ml) |
| Extractable Petroleum Hydrocarbons (EPH) | MA-EPH MT Modified (8015M) | | 5-300 | 14 days | 2-1000 ml amber glass teflon cap | $H_2SO_4$ , cool to ≤6°C |
| Volatile Petroleum Hydrocarbons (VPH) | MA-VPH MT Modified | | 0.5-20 | 14 days | 3-40 mL VOA vials | HCl to pH <2, cool to ≤6°C |
| Methane | SW8015 Mod | | 0.2 | 14 | 2-40 mL VOA vials | 4 Drops $H_2SO_4$ |

| Parameter | Preferred Method | Alternate Method | Req. Report Limit ug/L | Holding Time Days | Bottle | Preservative |
|---|---|---|---|---|---|---|
| PCB and organochloro pesticides | EPA 608 | | 0.08 | 72 hr or 7 days to extraction analyze - 40d | 1000 ml amber glass teflon cap | 4°C, protect from light - extract in 72 hr or preserve w/NaOH to pH 5-9 extract w/in 7 days |
| PCB congeners | EPA 1668A | EPA 8082A, EPA 600 | .01-3 | 1 year | 1.1 L min amber glass screw top lined with fluoropolymer | dark, <6°C, |
| **Water Sample - Calculated Results** | | | | | | |
| Total Hardness as $CaCO_3$ | A2340 B (Calc) | | 1000 | | | |
| Sodium Adsorption Ratio (SAR) | Calc | | | | | |

| Parameter | Preferred Method | Alternate Method | Req. Report Limit mg/kg (dry weight) | Holding Time Days | Bottle | Preservative |
|---|---|---|---|---|---|---|
| **Sediment Sample - Total Recoverable Metals** | | | | | | |
| *Total Recoverable Metals Digestion* | EPA 200.2 | | N/A | 180 | 2000 ml HDPE Widemouth | 4°C |
| Arsenic | EPA 200.8 | EPA 200.9 | 1 | | | |
| Cadmium | EPA 200.8 | EPA 200.9 | 0.2 | | | |
| Chromium | EPA 200.8 | EPA 200.7 | 9 | | | |
| Copper | EPA 200.8 | EPA 200.7 | 15 | | | |
| Iron | EPA 200.7 | EPA 200.7 | 10 | | | |
| Lead | EPA 200.8 | EPA 200.9 | 5 | | | |
| Zinc | EPA 200.7 | EPA 200.7 | 20 | | | |
| **Sediment Sample - Total Metals** | | | | | | |
| Mercury | EPA 7471B | | 0.05 | 28 | 2000 ml HDPE Widemouth | None |
| **Sediment Sample - Other** | | | | | | |
| Polychlorinated Biphenyls (PCB) | SW8082 | | 0.033 | 14 | 125 mL Glass w/ Teflon Lid | ≤6°C |

| Parameter | Preferred Method | Alternate Method | Req. Report Limit $mg/m^2$ | Holding Time Days | Bottle | Preservative |
|---|---|---|---|---|---|---|
| **Substrate Sample - Chlorophyll-a** | | | | | | |
| Chlorophyll-a | A 10200 H | | | ASAP(pH<6) | Filter | Freeze, and prevent exposure to light |
| Ash Free Dry Weight (AFDW) | A 10300 C (5) | | | | Filter | Freeze |

Updated: August 1, 2016

Required Reporting Value (RRV) is an estimated Minimum Reporting Limit (MDL)*3.18 This value is a rough "minimum level of quantitation" or the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte

[n]Freeze option with 45 day HT is for special circumstances and must be discussed with the lab before sampling

** RRVs calculated for total recoverable elements and can used for dissolved, if the RRVs meet your studies needs