

Table 1
Required Containers, Preservative Techniques, and Holding Times

| | METHOD | CONTAINER | VOLUME | PRESERVATIVE | HOLDING TIME |
|--|--------------------------|--|---------------|-----------------------|--|
| Volatile Organics | | | | | |
| Acrolein & Acrylonitrile | 603 | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS | 14 days* |
| BTEX, MTBE | 8021 | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 14 days* |
| Gasoline Range Organics/VFH | 8015GRO, 8015m | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 7/14 days* |
| Gasoline Range Organics/BTEX | 8015GRO/8021B | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 14 days* |
| Purgeable Halocarbons | 601, 8021 | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 14 days* |
| Purgeable Aromatic Hydrocarbons | 602, 8021 | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 14 days* |
| Volatile Organics by GC/MS | 524, 624, 8260 | VOA-glass | 2-40mL vials | Cool 4°C, HCl, no HS* | 14 days* |
| no HS = no headspace | | *In Arizona, soils have a 48 hour extraction holding time for volatile analysis (8015GRO, 8021, 8260). | | | |
| Semi-Volatile Organics | | | | | |
| Benzidines | 605 | glass-amber | 1L | Cool 4°C | 7 days |
| Carbamate Pesticides | 632 | glass-amber | 1L | Cool 4°C | 7 days |
| Chlorinated Herbicides | 515, 8151 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Chlorinated Hydrocarbons | 8121 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Diesel Range Organics | 8015, 8015AZ† | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil† |
| EDB & DBCP | 504.1, 8011 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Haloethers | 611 | glass-amber | 1L | Cool 4°C | 7 days |
| Nitroaromatics and Isophorone | 609 | glass-amber | 1L | Cool 4°C | 7 days |
| Nitrosamines | 607 | glass-amber | 1L | Cool 4°C | 7 days |
| Organophosphorous Pesticides | 614, 8141 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Oil & Grease | 413.1, 413.2 | glass-amber | 1L | Cool 4°C, HCl | 28 days |
| PCBs | 608, 8082 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Pesticides | 608, 8081 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Phenols | 604, 8041 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Phthalate Esters | 606, 8061 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| Polynuclear Aromatic Hydrocarbons (PAHs) | 550, 610, 8310 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| SemiVolatile Organics by GC/MS | 625, 8270 | glass-amber | 1L | Cool 4°C | 7 days/ 14 days soil |
| TRPH | 418.1, 418.1AZ** | glass-amber | 1L | Cool 4°C, HCl | 28 days** |
| **418.1AZ has a 14 day holding time. | | Holding times are shown as "days until extraction". Samples have a 40 day holding time after extraction. †8015AZ must be extracted and analyzed within 14 days of sampling. | | | |
| Metals | | | | | |
| Chromium VI | 218.6, 7196, 7199 | poly or glass | 500mL | Cool 4°C | 24 hrs -H ₂ O One month to extract, 4days after extract-soil |
| Mercury | 245.1, 7471 | poly or glass | 500mL | HNO ₃ | 28 days |
| Organic Lead | CA DHS (LUFT) | glass-amber | 500mL | Cool 4°C | 14 days |
| All Other Metals | 200.7, 6010, 200.9, 7000 | poly or glass | 500mL | HNO ₃ | 6 months |

| | METHOD | CONTAINER | VOLUME | PRESERVATIVE | HOLDING TIME |
|---------------------------------|--------------------|--------------------|--------------|------------------------------|--------------|
| Inorganics | | | | | |
| Acidity | 305.1 | poly or glass | 500mL | Cool 4°C | 14 days |
| Alkalinity | 310.1 | poly or glass | 500mL | Cool 4°C | 14 days |
| Ammonia (as N) | 350.2 | poly or glass | 500mL | Cool 4°C, H2SO4 | 28 days |
| Biochemical Oxygen Demand (BOD) | 405.1 | poly or glass | 1L | Cool 4°C | 48 hours |
| Carbonaceous BOD (cBOD) | 405.1 | poly or glass | 1L | Cool 4°C | 48 hours |
| Chlorine, Total Residual | 330.5 | poly or glass | 500mL | Cool 4°C | immediately |
| Chemical Oxygen Demand (COD) | 410.4 | poly or glass | 500mL | Cool 4°C, H2SO4 | 28 days |
| Color | SM2120 | poly or glass | 500mL | Cool 4°C | 48 hours |
| Conductivity | 120.1, 9050 | poly or glass | 500mL | Cool 4°C | 28 days |
| Cyanide (Total & Amenable) | 335.2, 9012 | poly or glass | 500mL | Cool 4°C, NaOH | 14 days |
| Dissolved Oxygen (DO) | 360.1 | glass with stopper | 500mL | none | immediately |
| Flashpoint | 1010 | poly or glass | 2-40mL vials | Cool 4°C | N/A |
| Hardness | 130.2 | poly or glass | 500mL | HNO3 | 6 months |
| Ions by IC: Br, Cl, F1 | 300.0 | poly or glass | 100mL | Cool 4°C | 28 days |
| MBAS (Surfactants) | 425.1 | poly or glass | 1L | Cool 4°C | 48 hours |
| Nitrate | 300.0 | poly or glass | 100mL | Cool 4°C | 48 hours |
| Nitrite | 300.0 | poly or glass | 100mL | Cool 4°C | 48 hours |
| Perchlorate | 314 | poly or glass | 500mL | Cool 4°C | 28 days |
| PH | 150.1, 9040, 9045C | poly or glass | 500mL | none | immediately |
| Phenols (Total) | 420.1, 9066 | poly or glass | 500mL | Cool 4°C, H2SO4 | 28 days |
| Phosphate (Ortho) | 300.0 | poly or glass | 100mL | Cool 4°C | 48 hours |
| Phosphorus (Total) | 365.2 | poly or glass | 500mL | Cool 4°C, H2SO4 | 28 days |
| Settable Solids (SS) | 160.5 | poly or glass | 1L | Cool 4°C | 48 hours |
| Sulfate | 300.0 | poly or glass | 100mL | Cool 4°C | 28 days |
| Sulfide (Dissolved) | 376.2 | poly or glass | 500mL | Cool 4°C, NaOH | immediately |
| Sulfide (Total) | 376.2, SM4500 | poly or glass | 500mL | Cool 4°C, NaOH+Zn acetate | 7 days |
| Sulfite | 377.1 | poly or glass | 100mL | Cool 4°C | immediately |
| Temperature | 170.1 | poly or glass | 500mL | none | immediately |
| Total Dissolved Solids (TDS) | 160.1 | poly or glass | 1L | Cool 4°C | 7 days |
| Total Suspended Solids (TSS) | 160.2 | poly or glass | 1L | Cool 4°C | 7 days |
| Total Kjeldahl Nitrogen (TKN) | 351.3 | poly or glass | 500mL | Cool 4°C, H2SO4 | 28 days |
| Total Organic Carbon (TOC) | 415.1, 9060 | VOA-glass | 2-40mL vials | Cool 4°C, HCl | 14 days |
| Total Organic Halogens (TOX) | 9020B | VOA-glass | 2-40mL vials | Cool 4°C, H2SO4 | 7 days |
| Turbidity | 180.1 | poly or glass | 500mL | Cool 4°C | 48 hours |
| Microbiology | | | | | |
| Coliform (Total & Fecal) | SM9221B, SM9223B | poly | 100mL | Cool 4°C, sodium thiosulfate | 6-30 hours |
| Heterotrophic Plate Count | SM 9215B | poly | 100mL | Cool 4°C, sodium thiosulfate | 8 hours |