

**ATTACHMENT 1 -
Required Proficiency Testing Samples Matrices and Parameters**

1) Water Pollution/Non-Potable Water Proficiency Testing Samples

- a) Potassium; Sodium; Calcium; Magnesium; Aluminum; Boron; Iron; Strontium; Zinc; Titanium; Tin; Antimony; Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Molybdenum; Nickel; Selenium; Silver; Thallium; Uranium; Vanadium; Mercury.
- b) Calcium Hardness and Total Hardness.
- c) Total and Free Cyanide.
- d) Ammonia as N.
- e) Nitrate plus Nitrite as N.
- f) Total Phosphorus as P.
- g) Alkalinity as CaCO_3 .
- h) Conductivity at 25°C.
- i) Color.
- j) pH.
- k) Turbidity.
- l) Volatiles: acetone; acrylonitrile; benzene; bromobenzene; bromochloromethane; bromodichloromethane; bromoform; bromomethane; 2-butanone (MEK); n-butylbenzene; sec-butylbenzene; tert-butylbenzene; MTBE (tert-butyl methyl ether); carbon disulfide; carbon tet; chlorobenzene; chlorodibromomethane; chloroethane; chloroform; chloromethane; 2-chlorotoluene; 4-chlorotoluene; 1,2-dibromo-3-chloropropane; 1,2-dibromoethane; dibromomethane; 1,2 dichlorobenzene; 1,3 dichlorobenzene; 1,4 dichlorobenzene; dichlorodifluoromethane (Freon 12); 1,1 dichloroethane; 1,2 dichloroethane; 1,1 dichloroethylene; cis-1,2 dichloroethylene; trans-1,2 dichloroethylene; 1,2 dichloropropane; 1,3 dichloropropane; 2,2-dichloropropane; 1,1-dichloropropene; cis-1,3 dichloropropylene; trans-1,3 dichloropropylene; ethylbenzene; hexachlorobutadiene; hexachloroethane; 2-hexanone; isopropylbenzene; 4-isopropyltoluene; methylene chloride; 4-methyl-2-pentanone (MIBK); naphthalene; n-propylbenzene; styrene; 1,1,1,2 tetrachloroethane; 1,1,2,2 tetrachloroethane; tetrachloroethylene; toluene; 1,2,3-trichlorobenzene; 1,2,4-trichlorobenzene; 1,1,1 trichloroethane; 1,1,2 trichloroethane; trichloroethylene; trichlorofluoromethane; 1,2,3 trichloropropane (TCP); 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; vinyl chloride; m&p-xylene; o-xylene; xylenes, total.

- m) Acids and Base/Neutrals:** acenaphthene; acenaphthylene; anthracene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzo(g,h,i)perylene; benzo(a)pyrene; benzyl alcohol; 4-bromophenyl-phenylether; butylbenzylphthalate; 4-chloroaniline; bis(2-chloroethoxy)methane; bis(2-chloroethyl)ether; bis(2-chloroisopropyl)ether; 2-chloronaphthalene; 4-chlorophenyl-phenylether; chrysene; dibenz(a,h)anthracene; dibenzofuran; di-n-butylphthalate; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; diethylphthalate; dimethylphthalate; 2,4-dinitrotoluene; 2,6-dinitrotoluene; di-n-octylphthalate; bis(2-ethylhexyl)phthalate; fluoranthene; fluorene; hexachlorobenzene; hexachlorobutadiene; hexachlorocyclopentadiene; hexachloroethane; indeno(1,2,3-cd)pyrene; isophorone; 2-methylnaphthalene; naphthalene; 2-nitroaniline; 3-nitroaniline; 4-nitroaniline; nitrobenzene; n-nitrosodimethylamine; n-nitrosodiphenylamine; n-nitroso-di-n-propylamine; phenanthrene; pyrene; 1,2,4-trichlorobenzene; 4-chloro-3-methylphenol; 2-chlorophenol; 2,4-dichlorophenol; 2,4-dimethylphenol; 4,6-dinitro-2-methylphenol; 2,4-dinitrophenol; 2-methylphenol; 4-methylphenol; 2-nitrophenol; 4-nitrophenol; pentachlorophenol; phenol; 2,4,5-trichlorophenol; 2,4,6-trichlorophenol.
- n) Chlorinated Acid Herbicides:** acifluorfen; bentazon; chloramben; 2,4-D; 2,4-DB; DCPA; dalapon; dicamba; 3,5-dichlorobenzoic acid; dichlorprop; dinoseb; MCPA; MCPP; 4-nitrophenol; pentachlorophenol; picloram; 2,4,5-T; and 2,4,5-TP.

2) Water Supply/Drinking Water Proficiency Testing Samples

- a)** Potassium; Sodium; Calcium; Magnesium; Boron; Iron; Zinc; Antimony; Arsenic; Barium; Beryllium; Cadmium; Chromium; Copper; Lead; Manganese; Molybdenum; Nickel; Selenium; Silver; Thallium; Vanadium; Uranium; Aluminum; Mercury.
- b)** Calcium Hardness and Total Hardness.
- c)** Alkalinity.
- d)** Conductivity.
- e)** Nitrate + Nitrite as N.
- f)** pH.
- g)** Turbidity.
- h)** Color.
- i)** Perchlorate.
- j)** Ammonia.

- k)** Total Organic Carbon and Dissolved Organic Carbon.
- l)** Total and Free Cyanide.
- m)** Endothall.
- n)** Glyphosate.
- o)** Diquat.
- p)** Paraquat.
- q)** Chloride.
- r)** Fluoride.
- s)** Nitrate as N.
- t)** Sulfate.
- u)** Nitrite as N.
- v)** Ortho-phosphate as P.
- w)** Bromide.
- x)** Regulated Volatiles: benzene; carbon tet; chlorobenzene; 1,2 dichlorobenzene; 1,4 dichlorobenzene; 1,2 dichloroethane; 1,1 dichloroethylene; cis-1,2 dichloroethylene; trans-1,2 dichloroethylene; 1,2 dichloropropane; ethylbenzene; methylene chloride (dichloromethane); styrene; tetrachloroethylene; toluene; 1,2,4 trichlorobenzene; 1,1,1 trichloroethane; 1,1,2 trichloroethane; trichloroethylene; vinyl chloride; xylenes, total.
- y)** Halomethanes (THMs): bromodichloromethane; bromoform; chlorodibromomethane; chloroform.
- z)** Unregulated Volatiles: bromobenzene; bromochloromethane; bromomethane; n-butylbenzene; sec-butylbenzene; tert-butylbenzene; chloroethane; chloromethane; 2-chlorotoluene; 4-chlorotoluene; dibromomethane; 1,3-dichlorobenzene; dichlorodifluoromethane; 1,1 dichloroethane; 1,3 dichloropropane; 2,2-dichloropropane; 1,1 dichloropropene; cis-1,3 dichloropropene; trans-1,3 dichloropropene; fluorotrichloromethane; hexachlorobutadiene; isopropylbenzene; 4-isopropyltoluene; naphthalene; n-propylbenzene; 1,1,1,2 tetrachloroethane; 1,1,2,2 tetrachloroethane; 1,2,3 trichlorobenzene; 1,2,3 trichloropropane (TCP); 1,2,4 trimethylbenzene; 1,3,5 trimethylbenzene.

aa) Pesticides: Alachlor; Aldrin; Atrazine; Dieldrin; Endrin; Heptachlor; Heptachlor Epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; Gamma-BHC (Lindane); Methoxychlor; Simazine.

bb) Toxaphene.

cc) Chlordane.

dd) Semivolatiles: acenaphthene; acenaphthylene; anthracene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzo(g,h,i)perylene; benzo(a)pyrene; butylbenzylphthalate; chrysene; dibenz(a,h)anthracene; diethylphthalate; dimethylphthalate; di-n-butylphthalate; bis(2-ethylhexyl)adipate; bis(2-ethylhexyl)phthalate; fluoranthene; fluorene; indeno(1,2,3-cd)pyrene; phenanthrene; and pyrene.

ee) Chlorinated Acid Herbicides: Acifluorfen; Bentazon; Chloramben; 2,4-D; 2,4-DB; DCPA; Dalapon; Dicamba; 3,5-Dichlorobenzoic Acid; Dichloroprop; Dinoseb; Pentachlorophenol; Picloram; 2,4,5-T; and 2, 4, 5-TP.

ff) Carbamates/Carbamoxyl oxime Pesticides: Aldicarb; Aldicarb Sulfone; Aldicarb Sulfoxide; Baygon; Carbaryl; Carbofuran; 3-Hydroxycarbofuran; Methiocarb; Methomyl; and Oxamyl.

gg) Haloacetic Acids: Bromoacetic Acid; Bromochloroacetic Acid; Chloroacetic Acid; Dibromoacetic Acid; Dichloroacetic Acid; Trichloroacetic Acid.

hh) Dibromochloropropane (DBCP) and Ethylene Dibromide (EDB).

ii) PCBs: Aroclor 1016; Aroclor 1221; Aroclor 1232; Aroclor 1242; Aroclor 1248; Aroclor 1254; and Aroclor 1260.

jj) Heterotrophic Plate Count by SimPlate (MPN).

kk) Total Coliform and E.coli (presence/absence).

ll) Total Coliform and E.coli (MPN).

3) Soil/Hazardous Waste Proficiency Testing Samples

a) Potassium; Sodium; Aluminum; Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Calcium; Chromium; Cobalt; Copper; Iron; Lead; Magnesium; Manganese; Molybdenum; Nickel; Selenium; Silver; Strontium; Thallium; Tin; Titanium; Vanadium; and Zinc.

b) Mercury.

- c) Acids and Base/Neutrals: acenaphthene; acenaphthylene; anthracene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzo(g,h,i)perylene; benzyl alcohol; benzo(a)pyrene; 4-bromophenyl-phenylether; butylbenzylphthalate; 4-chloroaniline; bis(2-chloroethoxy)methane; bis(2-chloroethyl)ether; bis(2-chloroisopropyl)ether; 4-chloro-3-methylphenol; 2-chloronaphthalene; 2-chlorophenol; 4-chlorophenyl-phenylether; chrysene; dibenz(a,h)anthracene; dibenzofuran; di-n-butylphthalate; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dichlorophenol; diethylphthalate; 2,4-dimethylphenol; dimethylphthalate; 2,4-dinitrophenol; 2,4-dinitrotoluene; 2,6-dinitrotoluene; di-n-octylphthalate; bis(2-ethylhexyl)phthalate; fluoranthene; fluorene; hexachlorobenzene; hexachlorobutadiene; hexachlorocyclopentadiene; hexachloroethane; indeno(1,2,3-cd)pyrene; isophorone; 4,6-dinitro-2-methylphenol; 2-methylnaphthalene; 2-methylphenol; 3&4-methylphenol; naphthalene; 2-nitroaniline; 3-nitroaniline; 4-nitroaniline; nitrobenzene; 2-nitrophenol; 4-nitrophenol; n-nitrosodimethylamine; n-nitrosodiphenylamine; n-nitroso-di-n-propylamine; pentachlorophenol; phenanthrene; phenol; pyrene; 1,2,4-trichlorobenzene; 2,4,5-trichlorophenol; and 2,4,6-trichlorophenol.
- d) Chlorinated Acid Herbicides: acifluorfen; bentazon; 2,4-D; 2,4-DB; dicamba; 3,5-dichlorobenzoic acid; dichloroprop; dinoseb; MCPA; MCPP; pentachlorophenol; picloram; 2,4,5-T; and 2,4,5-TP (silvex).

4) Radiochemistry Water Supply Proficiency Testing Samples

- a) Gamma Emitters (to include Barium-133; Cesium-134; Cesium-137; Cobalt-60; and Zinc-65).
- b) Gross Alpha and Gross Beta.
- c) Radium-226.
- d) Radium-228.
- e) Tritium.
- f) Strontium-90.

5) Radiochemistry Air Filter Proficiency Testing Samples

- a) Gross Alpha and Gross Beta.
- b) Gamma (to include Cesium-134; Cesium-137; Cobalt-60; and Zinc-65).