

**Pennsylvania State (Chapter 252) Accreditation
Fields of Proficiency Testing
Nonpotable Water
Effective June 18, 2022**

<i>Matrix</i>	<i>Analyte</i> ⁷	<i>PTRL</i>	<i>Units</i>
	Microbiology		
NPW	Total Coliform, MF ¹²	2	CFU/100mL
NPW	Fecal Coliform, MF ¹²	2	CFU/100mL
NPW	E.coli, MF ¹²	2	CFU/100mL
NPW	Enterococci, MF ¹²	2	CFU/100mL
NPW	Total Coliform (MPN-Multiple Tube) ¹³	2	MPN/100 mL
NPW	Total Coliform (MPN-Multiple Well) ¹³	2	MPN/100 mL
NPW	Fecal Coliform (MPN-Multiple Tube) ¹³	2	MPN/100 mL
NPW	Fecal Coliform (MPN-Multiple Well) ¹³	2	MPN/100 mL
NPW	E.coli (MPN-Multiple Tube) ¹³	2	MPN/100 mL
NPW	E.coli (MPN-Multiple Well) ¹³	2	MPN/100 mL
NPW	Enterococci (MPN-Multiple Tube) ¹³	2	MPN/100 mL
NPW	Enterococci (MPN-Multiple Well) ¹³	2	MPN/100 mL
	Trace Metals		
NPW	Aluminum	144	µg/L
NPW	Antimony	57	µg/L
NPW	Arsenic	64	µg/L
NPW	Barium	85	µg/L
NPW	Beryllium	42	µg/L
NPW	Boron	680	µg/L
NPW	Cadmium	85	µg/L
NPW	Chromium	85	µg/L
NPW	Chromium (VI)	71	µg/L
DW/NPW	Cobalt ⁸	85	µg/L
NPW	Copper	85	µg/L
NPW	Iron	170	µg/L
NPW	Lead	85	µg/L
NPW	Manganese	170	µg/L
NPW	Mercury	0.9	µg/L
NPW	Molybdenum	45	µg/L
NPW	Nickel	168	µg/L
NPW	Selenium	85	µg/L
NPW	Silver	85	µg/L
DW/NPW	Strontium ⁸	42	µg/L
NPW	Thallium	54	µg/L
DW/NPW	Tin ⁸	140	µg/L
DW/NPW	Titanium ⁸	51	µg/L
NPW	Vanadium	42	µg/L

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NPW	Zinc	255	µg/L
	Demands		
DW/NPW	Biochemical oxygen demand ⁸	4.9	mg/L
DW/NPW	Carbonaceous BOD (CBOD) ⁸	3.1	mg/L
DW/NPW	Chemical Oxygen Demand (COD) ⁸	16	mg/L
NPW	Total Organic Carbon (TOC)	4.2	mg/L
	Minerals		
NPW	Alkalinity as CaCO ₃	20	mg/L
NPW	Bromide	0.56	mg/L
NPW	Calcium	8.5	mg/L
NPW	Chloride	30	mg/L
NPW	Fluoride	0.26	mg/L
NPW	Calcium hardness as CaCO ₃	21	mg/L
NPW	Total hardness as CaCO ₃	34	mg/L
NPW	Magnesium	3.4	mg/L
NPW	Potassium	3.2	mg/L
NPW	Sodium	8.0	mg/L
NPW	Conductivity	180	µmhos/cm
NPW	Sulfate	3.0	mg/L
DW/NPW	Sulfide ⁸	0.20	mg/L
NPW	Residue-filterable (TDS)	95	mg/L
DW/NPW	Residue-total (TS) ⁸	95	mg/L
	Nutrients		
DWNPW	Ammonia as N ⁸	0.60	mg/L
NPW	Nitrate as N	1.50	mg/L
NPW	Nitrate plus Nitrite as N	1.99	mg/L
NPW	Nitrite as N	0.28	mg/L
NPW	Orthophosphate as P	0.42	mg/L
DW/NPW	Total Kjeldahl-Nitrogen ⁸	1.95	mg/L
DW/NPW	Total Phosphorus ⁸	0.35	mg/L
	Misc. Analytes		
DW/NPW	Acidity, as CaCO ₃ ⁸	585	mg/L
NPW	Color	1.7	PC units
DW/NPW	Residue-nonfilterable (TSS) ⁸	12	mg/L
NPW	pH	N/A	N/A
NPW	Total Cyanide	0.065	mg/L
DW/NPW	Total Phenolics ⁸	0.16	mg/L

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NPW	Total Residual Chlorine	0.38	mg/L
NPW	Residue-settleable	2.9	mL/L
NPW	Silica as SiO ₂	38	mg/L
NPW	Surfactants – MBAS	0.10	mg/L
NPW	Turbidity	1.2	NTU
NPW	Residue-volatile	41	mg/L
	Low Level Analytes ¹		
NPW	Mercury ¹	9.7	ng/L
NPW	Total Residual Chlorine ¹	5.0	µg/L
	Volatile Aromatics		
NPW	Benzene	7.0	µg/L
NPW	1,2-Dichlorobenzene (o-Dichlorobenzene) ²	7.0	µg/L
NPW	1,3-Dichlorobenzene (m-Dichlorobenzene) ²	7.0	µg/L
NPW	1,4-Dichlorobenzene (p-Dichlorobenzene) ²	7.0	µg/L
NPW	Ethylbenzene	7.0	µg/L
NPW	Naphthalene ²	6.3	µg/L
NPW	Styrene	13.0	µg/L
NPW	Toluene	7.0	µg/L
NPW	1,2,4-Trichlorobenzene ²	4.3	µg/L
NPW	1,2,4-Trimethylbenzene ^{2*}	6.5	µg/L
NPW	1,3,5-Trimethylbenzene ^{2*}	6.5	µg/L
NPW	m/p-Xylene ^{17*}	6.0	µg/L
NPW	o-Xylene ^{17*}	6.0	µg/L
NPW	Xylene (total) ¹⁷	12	µg/L
	Volatile Ketones/Ethers		
NPW	Acetone*	3.9	µg/L
NPW	2-Hexanone	4.4	µg/L
NPW	4-Methyl-2-pentanone (MIBK)	2.0	µg/L
NPW	Methyl tert-butyl ether (MTBE)	9.0	µg/L
	Volatile Halocarbons		
NPW	Bromodichloromethane	6.0	µg/L
NPW	Bromoform	6.0	µg/L
NPW	Methyl bromide (Bromomethane)	8.0	µg/L
NPW	Carbon tetrachloride	7.7	µg/L
NPW	Chlorobenzene	7.0	µg/L
NPW	Chloroethane (Ethyl chloride)	8.0	µg/L
NPW	Chloroform	7.0	µg/L

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NPW	Methyl chloride (Chloromethane)	8.0	µg/L
NPW	Chlorodibromomethane	6.0	µg/L
NPW	1,2-Dibromo-3-chloropropane (DBCP)*	9.0	µg/L
NPW	1,2-Dibromoethane (EDB, Ethylene dibromide)*	6.5	µg/L
NPW	Dibromomethane (Methylene bromide)*	6.5	µg/L
NPW	1,1-Dichloroethane	6.4	µg/L
NPW	1,2 Dichloroethane (Ethylene dichloride)	10.6	µg/L
NPW	1,1-Dichloroethylene	6.2	µg/L
NPW	cis-1,2-Dichloroethylene	7.0	µg/L
NPW	trans-1,2-Dichloroethylene	6.0	µg/L
NPW	1,2-Dichloropropane	7.0	µg/L
NPW	cis-1,3-Dichloropropene	6.5	µg/L
NPW	trans-1,3-Dichloropropylene	6.5	µg/L
NPW	Methylene chloride (Dichloromethane)	6.0	µg/L
NPW	1,1,1,2-Tetrachloroethane*	9.8	µg/L
NPW	1,1,2,2-Tetrachloroethane	9.8	µg/L
NPW	Tetrachloroethylene (Perchloroethylene)	4.3	µg/L
NPW	1,1,1-Trichloroethane	6.0	µg/L
NPW	1,1,2-Trichloroethane	10.5	µg/L
NPW	Trichloroethene (Trichloroethylene)	6.2	µg/L
NPW	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	8.0	µg/L
NPW	1,2,3-Trichloropropane*	4.1	µg/L
NPW	Vinyl chloride (Chloroethane)	8.0	µg/L
	Volatile Petroleum Hydrocarbons		
NPW	Gasoline range organics (GRO) ¹⁵	55	µg/L
	Base/Neutrals		
NPW	Acenaphthene	4.0	µg/L
NPW	Acenaphthylene	2.9	µg/L
NPW	Anthracene	3.9	µg/L
NPW	Benzo(a)anthracene	3.6	µg/L
NPW	Butyl benzyl phthalate	13.4	µg/L
NPW	Benzo(b)fluoranthene	7.5	µg/L
NPW	Benzo(k)fluoranthene	7.7	µg/L
NPW	Benzo(g,h,i)perylene	5.1	µg/L
NPW	Benzo(a)pyrene	2.4	µg/L
NPW	4-Bromophenyl phenyl ether (BDE-3)	8.6	µg/L
NPW	bis(2-Chloroethoxy)methane	3.9	µg/L
NPW	bis(2-Chloroethyl)ether	5.9	µg/L

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NPW	2,2'-Oxybis(1-Chloropropane), bis(2-Chloro-1-methylethyl)ether	3.1	µg/L
NPW	4-Chlorophenyl phenylether	9.9	µg/L
NPW	2-Chloronaphthalene	6.3	µg/L
NPW	Chrysene	5.8	µg/L
NPW	Dibenzo(a,h)anthracene	6.9	µg/L
NPW	Dibenzofuran	11.3	µg/L
NPW	1,2-Dichlorobenzene (o-Dichlorobenzene) ²	2.0	µg/L
NPW	1,3-Dichlorobenzene (m-Dichlorobenzene) ²	3.1	µg/L
NPW	1,4-Dichlorobenzene (p-Dichlorobenzene) ²	3.7	µg/L
NPW	Diethyl phthalate	8.9	µg/L
NPW	Dimethyl phthalate	11.5	µg/L
NPW	Di-n-butyl phthalate	15.8	µg/L
NPW	2,4-Dinitrotoluene (2,4-DNT)	4.5	µg/L
NPW	2,6-Dinitrotoluene (2,6-DNT)	8.2	µg/L
NPW	Di-n-octyl phthalate	8.2	µg/L
NPW	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	5.0	µg/L
NPW	Fluoranthene	15.6	µg/L
NPW	Fluorene	4.8	µg/L
NPW	Hexachlorobenzene	8.8	µg/L
NPW	Hexachlorobutadiene	4.3	µg/L
NPW	Hexachlorocyclopentadiene	5.0	µg/L
NPW	Hexachloroethane	3.3	µg/L
NPW	Indeno(1,2,3-cd)pyrene	9.2	µg/L
NPW	Isophorone	7.1	µg/L
NPW	2-Methylnaphthalene	2.0	µg/L
NPW	Naphthalene ²	4.5	µg/L
NPW	Nitrobenzene	6.2	µg/L
NPW	N-Nitrosodimethylamine	7.5	µg/L
NPW	N-Nitrosodi-n-propylamine	9.4	µg/L
NPW	N-Nitrosodiphenylamine	5.6	µg/L
NPW	Phenanthrene	4.7	µg/L
NPW	Pyrene	4.9	µg/L
NPW	1,2,4-Trichlorobenzene ²	2.0	µg/L
	Acids		
NPW	4-Chloro-3-methylphenol	11.7	µg/L
NPW	2-Chlorophenol	9.6	µg/L
NPW	2,4-Dichlorophenol	11.9	µg/L
NPW	2,6-Dichlorophenol	12.1	µg/L

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NPW	2,4-Dimethylphenol	11.9	µg/L
NPW	2,4-Dinitrophenol	10	µg/L
NPW	2-Methyl-4,6-Dinitrophenol (4,6-Dinitro-2-methylphenol)	10.7	µg/L
NPW	2-Methylphenol (o-Cresol)	9.5	µg/L
NPW	4-Methylphenol (p-Cresol) ³	5.0	µg/L
NPW	2-Nitrophenol	12.9	µg/L
NPW	4-Nitrophenol	10	µg/L
NPW	Phenol	10	µg/L
NPW	Pentachlorophenol	9.9	µg/L
NPW	2,4,5-Trichlorophenol	11.2	µg/L
NPW	2,4,6-Trichlorophenol	11.7	µg/L
	PCBs in Water^{4,16}		
NPW	Aroclor 1016 (PCB-1016) ^{4,16}	0.8	µg/L
NPW	Aroclor 1221 (PCB-1221) ^{4,16}	0.8	µg/L
NPW	Aroclor 1232 (PCB-1232) ^{4,16}	0.8	µg/L
NPW	Aroclor 1242 (PCB-1242) ^{4,16}	0.8	µg/L
NPW	Aroclor 1248 (PCB-1248) ^{4,16}	0.8	µg/L
NPW	Aroclor 1254 (PCB-1254) ^{4,16}	0.8	µg/L
NPW	Aroclor 1260 (PCB-1260) ^{4,16}	0.8	µg/L
	Organochlorine Pesticides		
NPW	Aldrin	0.34	µg/L
NPW	alpha-BHC (alpha-Hexachlorocyclohexane)	0.81	µg/L
NPW	beta-BHC (beta-Hexachlorocyclohexane)	0.92	µg/L
NPW	delta-BHC	0.79	µg/L
NPW	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	0.93	µg/L
NPW	cis-Chlordane (alpha-Chlordane)	0.41	µg/L
NPW	gamma-Chlordane	0.35	µg/L
NPW	Chlordane (tech.)	1.46	µg/L
NPW	4,4'-DDD	0.63	µg/L
NPW	4,4'-DDE	0.39	µg/L
NPW	4,4'-DDT	0.40	µg/L
NPW	Dieldrin	0.47	µg/L
NPW	Endosulfan I	1.40	µg/L
NPW	Endosulfan II	1.54	µg/L
NPW	Endosulfan sulfate	1.79	µg/L
NPW	Endrin	0.87	µg/L
NPW	Endrin aldehyde	1.42	µg/L

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NPW	Endrin ketone	2.0	µg/L
NPW	Heptachlor	0.29	µg/L
NPW	Heptachlor epoxide	0.44	µg/L
NPW	Methoxychlor	0.54	µg/L
NPW	Toxaphene (Chlorinated Camphene)	4.59	µg/L
	Herbicides		
NPW	2,4-D	0.20	µg/L
NPW	Dicamba	0.40	µg/L
NPW	2,4,5-T	0.20	µg/L
NPW	Silvex (2,4,5-TP)	0.50	µg/L
	Low Level Polyaromatic Hydrocarbons (PAHs)¹		
NPW	Acenaphthene ¹	0.79	µg/L
NPW	Acenaphthylene ¹	0.73	µg/L
NPW	Anthracene ¹	0.14	µg/L
NPW	Benzo(a)anthracene ¹	0.20	µg/L
NPW	Benzo(a)pyrene ¹	0.21	µg/L
NPW	Benzo(b)fluoranthene ¹	0.25	µg/L
NPW	Benzo(g,h,i)perylene ¹	0.18	µg/L
NPW	Benzo(k)fluoranthene ¹	0.22	µg/L
NPW	Chrysene ¹	0.23	µg/L
NPW	Dibenz(a,h)anthracene ¹	0.10	µg/L
NPW	Fluoranthene ¹	0.25	µg/L
NPW	Fluorene ¹	0.74	µg/L
NPW	Indeno(1,2,3-cd)pyrene ¹	0.20	µg/L
NPW	Naphthalene ¹	0.56	µg/L
NPW	Phenanthrene ¹	0.24	µg/L
NPW	Pyrene ¹	0.28	µg/L
	Petroleum Hydrocarbons		
NPW	Diesel Range Organics (DRO) ¹⁴	80	µg/L
DW/NPW	n-Hexane Extractable Material (O&G) ^{5,8}	8.8	mg/L
DW/NPW	non-Polar Extractable Material (TPH) ^{6,8}	7.6	mg/L
	Low Level Hydrocarbons¹		
NPW	1,2-Dibromo-3-chloropropane (DBCP)*	0.11	µg/L
NPW	1,2-Dibromoethane (EDB, Ethylene dibromide)*	0.08	µg/L
NPW	1,2,3-Trichloropropane*	0.13	µg/L

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	Radiochemistry		
DW/NPW	Gross Alpha ¹¹	3.0	pCi/L
DW/NPW	Gross Beta ¹¹	3.0	pCi/L
DW/NPW	Iodine-131 ¹¹	2.1	pCi/L
DW/NPW	Radium-226 ¹¹	0.86	pCi/L
DW/NPW	Radium-228 ¹¹	0.88	pCi/L
DW/NPW	Natural Uranium ¹¹	1.2	pCi/L
DW/NPW	Uranium (mass) ¹¹	1.8	ug/L
DW/NPW	Strontium-89 ¹¹	3.8	pCi/L
DW/NPW	Strontium-90 ¹¹	1.4	pCi/L
DW/NPW	Tritium ¹¹	760	pCi/L
	Gamma Emitters		
DW/NPW	Barium-133 ^{9,11}	6.4	pCi/L
DW/NPW	Cesium-134 ^{9,10,11}	6.6	pCi/L
DW/NPW	Cesium-137 ^{9,10,11}	16	pCi/L
DW/NPW	Cobalt-60 ^{9,11}	7.2	pCi/L
DW/NPW	Zinc-65 ^{9,11}	25	pCi/L

*) Identifies new FoPT.

1) The Low Level Analytes are specifically intended for technologies/methods that can achieve the listed PTRL. Laboratories analyzing routine environmental samples using technologies/methods that can achieve the listed PTRLs must analyze the Low Level Analyte PT samples.

2) Analysis required per volatile analytical technologies and solvent extraction/semivolatile analytical technologies.

3) Laboratories seeking or maintaining accreditation for Non-Potable Water 4-Methylphenol or the coeluting isomer pair of 3-Methylphenol and 4-Methylphenol must meet the PT requirements for this FoPT (4-Methylphenol).

4) Laboratories must analyze and report results for all Aroclors in an individual PT study. Incorrect identification or quantitation of one Aroclor will result in failure for the group.

5) n-Hexane Extractable Material (HEM) per solvent extraction followed by gravimetric or infrared spectrometric analysis (Oil & Grease).

6) non-Polar Extractable Material per solvent extraction and Silica Gel Treated (SGT) followed by gravimetric or infrared spectrometric analysis (Total Petroleum Hydrocarbons).

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- 7) All FoPTs must meet the design, verification, homogeneity, stability, and acceptance limits described in V3 of the TNI Standard and the TNI FoPT Tables.
- 8) Laboratories seeking to obtain or maintain accreditation for these analytes in the DW matrix must successfully perform a PT in the Non-Potable Water Matrix, also known as a WP study.
- 9) Laboratories seeking or maintaining accreditation for Gamma (Photon) Emitters must meet PT requirements for all Gamma Emitter analytes in the FoPT in a given PT study, by technology/method (Barium-133, Cesium-134, Cesium-137, Cobalt-60, Zinc-65).
- 10) Laboratories seeking or maintaining accreditation for Radioactive Cesium must meet PT requirements for both Radioactive Cesium analytes in the FoPT in a given PT study, by technology/method (Cesium-134, Cesium-137).
- 11) Laboratories seeking to obtain or maintain accreditation for these analytes in the NPW matrix must successfully perform a PT in the Drinking Water Matrix, also known as a WS study.
- 12) These limits are for quantitative methods using membrane filtration techniques.
- 13) These limits are for quantitative methods using most probable number techniques.
- 14) Diesel Range Organics (DRO) per solvent extraction followed by chromatographic analysis. DRO is defined as the carbon range between n-C₁₀ and n-C₂₈.
- 15) Gasoline Range Organics (GRO) per purge-and-trap extraction followed by chromatographic analysis. GRO is defined as the carbon range between n-C₅ and n-C₁₀.
- 16) A “Not Acceptable” evaluation of any one or more Aroclor Identifications constitutes a failure to demonstrate proficiency for all accredited Aroclors reported.
- 17) Volatiles Aromatics must contain all three Xylene isomers. The concentration range of o-Xylene and m/p-Xylene is 10-150 µg/L each.