

Wisconsin Department of Natural Resources Laboratory Certification Program

Approved Proficiency Testing Samples for the Aqueous Matrix *(Effective December 1, 2008)*

The following proficiency testing samples are required for all applications and annual renewal for WDNR certification or registration. These PTs must be from a Water Pollution (WP) study. Laboratories that are certified in the aqueous matrix must submit one acceptable PT result, where required, for each analytical technique/analyte combination. If a laboratory maintains certification or registration for the same analyte but multiple analytical techniques, they must analyze the PT by each technique, but can use the same PT sample for each analytical technique. PT samples for each analytical technique/analyte combination in the solid matrix are not required at this time.

Each table indicates the PT in which the analyte is contained. General chemistry analytes always in the same PT are clearly identified (e.g., BOD is always in Demand PTs). All other general chemistry analyte PTs are listed, by provider, in Table 22, at the end of this document.

**TABLE 1
OXYGEN DEMAND ASSAYS**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Oxygen Demand Assays										
	General Chemistry									
		Biochemical Oxygen Demand (BOD)	DEMAND	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Carbonaceous BOD	DEMAND	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-

**TABLE 2
COLORIMETRIC OR NEPHELOMETRIC**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Colorimetric or Nephelometric (Turbidimetric)										
	General Chemistry									
		Ammonia	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chemical Oxygen Demand (COD)	DEMAND	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chloride	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chlorine, Total Residual	CHLORINE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Cyanide, Total	CYANIDE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Kjeldahl Nitrogen, Total (TKN)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Orthophosphate	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-N-
		Phosphorus, Total	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-

Required Proficiency Testing Samples for Routine Wastewater Analytes

**TABLE 4
ELECTROMETRIC ASSAYS**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Electrometric Assays										
General Chemistry										
		Ammonia as N	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chloride	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chlorine, Total Residual	CHLORINE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Cyanide, Total	CYANIDE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Kjeldahl Nitrogen, Total (TKN)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		pH	pH	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Specific Conductance	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-N-

**TABLE 5
GRAVIMETRIC ASSAYS— RESIDUE**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Gravimetric Assays										
General Chemistry										
		Residue, Filterable (TDS)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Residue, Nonfilterable (TSS)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-

**TABLE 6
GRAVIMETRIC ASSAYS— OIL & GREASE**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Gravimetric Assays										
General Chemistry										
		Oil & Grease, Hexane Extractable Materials (HEM)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-

Required Proficiency Testing Samples for Routine Wastewater Analytes

**TABLE 8
TITRIMETRIC OR POTENTIOMETRIC TITRATION ASSAYS**

Analytical Technique	Class	Analyte	PT	Req'd	Absolute	ERA	NSI	RTC	Wibby	WSLH
Titrimetric or Potentiometric Titrimetric Assays										
General Chemistry										
		Ammonia as N	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chemical Oxygen Demand (COD)	DEMAND	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chloride	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Chlorine, Total Residual	CHLORINE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Cyanide, Total	CYANIDE	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-
		Kjeldahl Nitrogen, Total (TKN)	TABLE 22	Yes	-Y-	-Y-	-Y-	-Y-	-Y-	-Y-

TABLE 22 – PT FORMULATIONS

Each approved proficiency testing provider offers inorganic analytes (general chemistry and metallic) analytes in mixes or as individual analytes. This table identifies the PT in which each of these analytes is available. Common abbreviations used: In Nutrient (Inorganic Nutrients), Simple Nutr (Simple Nutrients), Org Nutrient (Organic Nutrients), and Complex Nu (Complex Nutrients).

Analyte	Absolute	ERA	NSI	RTC	WIBBY	WSLH
Ammonia as N	In Nutrient	Simple Nutr	Simple Nutr	Simple Nutr	Nutrients	Nutrients A
Biochemical Oxygen Demand	Demand	Demand	Demand	Demand	Demand	BOD/COD
Carbonaceous BOD	Demand	Demand	Demand	Demand	Demand	BOD/COD
Chemical Oxygen Demand	Demand	Demand	Demand	Demand	Demand	BOD/COD
Chloride	Minerals #1	Minerals	Minerals	Minerals	Minerals	Cl/F/SO ₄
Chlorine, Total Residual	TRC	TRC	TRC	TRC	TRC	TRC
Cyanide, Total	Cyanide	Cyanide	Cyanide	Cyanide	Cyanide	Cyanide
Kjeldahl Nitrogen, Total	Org Nutrient	Complex Nu	Complex Nu	Complex Nu	Nutrients	Nutrients B
pH	pH	pH	pH	pH	pH	pH
Phosphorus, Total	Org Nutrient	Complex Nu	Complex Nu	Complex Nu	Nutrients	Nutrients B
Oil and Grease, Hexane Extractable Materials	HEM	Oil& Grease	Oil& Grease	Oil& Grease	Oil& Grease	HEM
Orthophosphate	In Nutrient	Simple Nutr	Simple Nutr	Anions Simple Nutr	Nutrients	Not Avail
Residue, Filterable (TDS)	Minerals #1 Solids	Minerals	Minerals Residue	Minerals Residue	Solids	Not Avail
Residue, Nonfilterable (TSS)	Solids	Hardness	Residue	Residue	Solids	TSS