

COMMONWEALTH OF KENTUCKY

Energy and Environment Cabinet

2023

Wastewater Laboratory Certification Program
In Accordance with KRS 224.10-670 and 401 KAR Chapter 5:320



THIS CERTIFIES THAT

Microbac Laboratories, Inc. - Louisville
3323 Gilmore Industrial Blvd
Louisville, KY 40213
Laboratory ID Number: KY00074



The above laboratory has complied with Kentucky Administrative Regulation 401 KAR 5:320, Wastewater Laboratory Certification Program, for the analyses of wastewater samples, as specified in 33 U.S.C. 1342, for the method-analyte pairs specified on the attached certification list.

Effective From: January 1, 2023

To: December 31, 2023

Kevin Stewart

Certification Program Manager

Signed by: Kevin Stewart

Microbac Laboratories, Inc. - Louisville
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KY Category	CAS #	Analyte	Status	Reference Method	Method Code for PT Reporting	MRL	MRL Units
Field	7782-50-5	Chlorine, Free Available	Certified	SM 4500-Cl G-2011	20081623	0.02	mg/L
Field	7782-50-5	Chlorine, Total Residual	Certified	HACH 8167	60003807	0.02	mg/L
Field		Oxygen, Dissolved	Certified	SM 4500-O G-2016	20121679	0.10	mg/L
Field		Specific Conductance	Certified	SM 2510 B-2011	20048617	10	umhos/cm
Field	14265-45-3	Sulfite (as SO ₃)	Certified	SM 4500-SO ₃ ⁻ B-2011	20130636	4	mg/L
Field		Temperature	Certified	SM 2550 B-2010	20053229		degrees Celsius
Field		Turbidity	Certified	SM 2130 B-2011	20048220	1	NTU
Field		pH	Certified	SM 4500-H+ B-2011	20105220	1	S.U.
Inorganic/General Chemistry		Acidity, Total (as CaCO ₃)	Certified	SM 2310 B-2011	20044615	5	mg/L
Inorganic/General Chemistry		Alkalinity, Total (as CaCO ₃)	Certified	SM 2320 B-2011	20045618	5	mg/L
Inorganic/General Chemistry	7664-41-7	Ammonia	Certified	SM 4500-NH ₃ G-2011	20111415	0.50	mg/L
Inorganic/General Chemistry		BOD, 5-day	Certified	SM 5210 B-2016	20135039	3	mg/L
Inorganic/General Chemistry	24959-67-9	Bromide	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.50	mg/L
Inorganic/General Chemistry		Carbon, Total Organic	Interim	SM 5310 C-2014	20138834	0.50	mg/L
Inorganic/General Chemistry		Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	Certified	SM 5210 B-2016	20135039	3	mg/L
Inorganic/General Chemistry		Chemical Oxygen Demand (COD)	Certified	SM 5220 D-2011	20136816	50	mg/L
Inorganic/General Chemistry	16887-00-6	Chloride	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.50	mg/L
Inorganic/General Chemistry	16887-00-6	Chloride	Certified	SM 4500-Cl ⁻ E-2011	20086811	30	mg/L
Inorganic/General Chemistry		Chromium (VI)	Certified	SM 3500-Cr B-2011	20066266	0.01	mg/L
Inorganic/General Chemistry		Cyanide - Available	Interim	SM 4500 CN ⁻ G-2016	20097238	0.01	mg/L
Inorganic/General Chemistry	57-12-5	Cyanide, Total (as Cn)	Interim	SM 4500 CN ⁻ E-2016	20096439	0.01	mg/L



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Inorganic/General Chemistry	16984-48-8	Fluoride	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.50	mg/L
Inorganic/General Chemistry		Hardness, Total (as CaCO ₃)	Certified	SM 2340 B-2011	20046611		mg/L
Inorganic/General Chemistry	84145-82-4	Nitrate	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.113	mg/L
Inorganic/General Chemistry		Nitrate-Nitrite (as N)	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.113	mg/L
Inorganic/General Chemistry	14797-65-0	Nitrite	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.152	mg/L
Inorganic/General Chemistry		Nitrogen, Kjeldahl Total (TKN)	Interim	EPA 351.2 Rev. 2.0 (1993)	10065404	1	mg/L
Inorganic/General Chemistry		Nitrogen, Organic Total (as N)	Certified	Calculation			mg/L
Inorganic/General Chemistry	7727-37-9	Nitrogen, Total	Certified	Calculation			mg/L
Inorganic/General Chemistry		Oil and Grease	Certified	EPA 1664 Rev. B	10261617	5	mg/L
Inorganic/General Chemistry	64743-03-9	Phenolics, Total	Interim	EPA 420.4 Rev. 1.0 (1993)	10080203	0.05	mg/L
Inorganic/General Chemistry	7723-14-0	Phosphorus, Total (as P)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.2	mg/L
Inorganic/General Chemistry	7723-14-0	Phosphorus, Total (as P)	Certified	EPA 365.1 Rev. 2.0 (1993)	10070005	0.1	mg/L
Inorganic/General Chemistry		Solids, Settleable	Certified	SM 2540 F-2015	20052226	0.10	ml/l/hr
Inorganic/General Chemistry		Solids, Total	Certified	USGS B5, Ch A1 (1989) I-3750-85	40010808	20	mg/L
Inorganic/General Chemistry		Solids, Total Dissolved	Certified	SM 2540 C-2015	20050435	10	mg/L
Inorganic/General Chemistry		Solids, Total Suspended (TSS)	Certified	USGS I-3765-85 (1989)	40011209	5	mg/L
Inorganic/General Chemistry		Solids, Volatile (Residue, Volatile)	Certified	USGS B5, Ch A1 (1989) I-3753-85	40011005	20	mg/L
Inorganic/General Chemistry	14808-79-8	Sulfate, Total (as SO ₄)	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.50	mg/L
Inorganic/General Chemistry	18496-25-8	Sulfide, Total (as S)	Certified	SM 4500-S ₂ ⁻ D-2011	20125864	0.04	mg/L
Inorganic/General Chemistry		Surfactants (MBAS)	Certified	SM 5540 C-2011	20145066	0.50	mg/L
Inorganic/General Chemistry	264888-19-9	o-Phosphate	Certified	EPA 300.0 Rev 2.1 (1993)	10053200	0.163	mg/L
Inorganic/General Chemistry	264888-19-9	o-Phosphate	Certified	EPA 365.1 Rev. 2.0 (1993)	10070005	0.20	mg/L



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Inorganic/Metals	7429-90-5	Aluminum, Total (as Al)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.2	mg/L
Inorganic/Metals	7429-90-5	Aluminum, Total (as Al)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	50	ug/L
Inorganic/Metals	7440-36-0	Antimony, Total (as Sb)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.024	mg/L
Inorganic/Metals	7440-36-0	Antimony, Total (as Sb)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-38-2	Arsenic, Total (as As)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.024	mg/L
Inorganic/Metals	7440-38-2	Arsenic, Total (as As)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-39-3	Barium, Total (as Ba)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.5	mg/L
Inorganic/Metals	7440-39-3	Barium, Total (as Ba)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	2	ug/L
Inorganic/Metals	7440-41-7	Beryllium, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.001	mg/L
Inorganic/Metals	7440-41-7	Beryllium, Total	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	1	ug/L
Inorganic/Metals	7440-42-8	Boron	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.03	mg/L
Inorganic/Metals	7440-43-9	Cadmium, Total (as Cd)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.001	mg/L
Inorganic/Metals	7440-43-9	Cadmium, Total (as Cd)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-70-2	Calcium, total [as Ca]	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.2	mg/L
Inorganic/Metals	7440-47-3	Chromium, Total (as Cr)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.01	mg/L
Inorganic/Metals	7440-47-3	Chromium, Total (as Cr)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-48-4	Cobalt, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.004	mg/L
Inorganic/Metals	7440-48-4	Cobalt, Total	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-50-8	Copper, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.01	mg/L
Inorganic/Metals	7440-50-8	Copper, Total	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	5	ug/L
Inorganic/Metals	7439-89-6	Iron, Total (as Fe)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.24	mg/L
Inorganic/Metals	7439-89-6	Iron, Total (as Fe)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	50	ug/L
Inorganic/Metals	7439-92-1	Lead, Total (as Pb)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.1	mg/L



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Inorganic/Metals	7439-92-1	Lead, Total (as Pb)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7439-95-4	Magnesium, Total (as Mg)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.2	mg/L
Inorganic/Metals	7439-96-5	Manganese, Total (as Mn)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.01	mg/L
Inorganic/Metals	7439-96-5	Manganese, Total (as Mn)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7439-98-7	Molybdenum, Total (as Mo)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.02	mg/L
Inorganic/Metals	7439-98-7	Molybdenum, Total (as Mo)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	2	ug/L
Inorganic/Metals	7440-02-0	Nickel, Total (as Ni)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.01	mg/L
Inorganic/Metals	7440-02-0	Nickel, Total (as Ni)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	1	ug/L
Inorganic/Metals	7440-09-7	Potassium, Total (as K)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	1	mg/L
Inorganic/Metals	7782-49-2	Selenium, Total (as Se)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.008	mg/L
Inorganic/Metals	7782-49-2	Selenium, Total (as Se)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	5	ug/L
Inorganic/Metals	7440-22-4	Silver, Total (as Ag)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.008	mg/L
Inorganic/Metals	7440-22-4	Silver, Total (as Ag)	Interim	EPA 200.8, Rev. 5.4 (1994)	10014605	0.1	ug/L
Inorganic/Metals	7440-23-5	Sodium, Total (as Na)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.5	mg/L
Inorganic/Metals	7440-28-0	Thallium, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.03	mg/L
Inorganic/Metals	7440-28-0	Thallium, Total	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-31-5	Tin, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.06	mg/L
Inorganic/Metals	7440-32-6	Titanium, Total (as Ti)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.02	mg/L
Inorganic/Metals	7440-62-2	Vanadium, Total	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.02	mg/L
Inorganic/Metals	7440-62-2	Vanadium, Total	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	0.5	ug/L
Inorganic/Metals	7440-66-6	Zinc, Total (as Zn)	Certified	EPA 200.7, Rev. 4.4 (1994)	10013806	0.09	mg/L
Inorganic/Metals	7440-66-6	Zinc, Total (as Zn)	Certified	EPA 200.8, Rev. 5.4 (1994)	10014605	10	ug/L
Microbiology		Coliform, Fecal	Certified	Colilert-18 [®]	60002666	1	MPN/100mL



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Microbiology		E. Coli	Certified	Colilert [®]	60002600	1	MPN/100mL
Microbiology		E. Coli	Certified	Colilert-18 [®]	60002666	1	MPN/100mL
Toxicity		Ceriodaphnia dubia	Interim	EPA 1002.0 (2002)	10215200	1	TUc
Toxicity		Ceriodaphnia dubia	Interim	EPA 2002.0 (2002)	10214901	1	TUa
Toxicity		Daphnia magna	Interim	EPA 2021.0 (2002)	10215391	1	TUa
Toxicity		Pimephales promelas	Interim	EPA 1000.0 (2002)	10214003	1	TUc
Toxicity		Pimephales promelas	Interim	EPA 2000.0 (2002)	10213419	1	TUa

