

# COMMONWEALTH OF KENTUCKY

## Energy and Environment Cabinet

2018

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

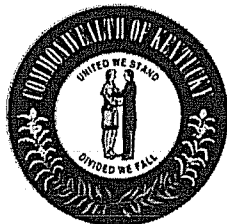
### THIS CERTIFIES THAT

Microbac Laboratories, KTL Division-Louisville  
3323 Gilmore Industrial Boulevard  
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, 2018

To: December 31, 2018



*Kevin Stewart*  
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Certification Program Manager

KY Category	CAS #	Analyte	Status	Reference Method	KY Method Code	MDL	MRL	Units	ATP	Method Mod
Field	7782-50-5	Chlorine - Total Residual	Certified	Hach 8167		N/A	0.02	mg/L		
Field	7782-50-5	Chlorine - Free Available	Certified	SM 4500 Cl G-2000		N/A	0.02	mg/L		
Field	N/A	Dissolved Oxygen	Certified	SM 4500 O G-2011		N/A	0.1	mg/L		
Field	N/A	pH	Certified	SM 4500 H <sup>+</sup> B-2011		N/A	1	SU		
Field	N/A	Specific Conductance	Certified	SM 2510 B-2011		N/A	10	umhos/cm		
Field	N/A	Temperature	Certified	SM 2550 B-2000		N/A	N/A	°F or °C		
Field	N/A	Turbidity	Certified	SM 2130 B-2011		N/A	1	NTU		
Inorganic/Gen Chem	N/A	Acidity	Certified	SM 2310 B-2011		N/A	5	mg/L		
Inorganic/Gen Chem	N/A	Alkalinity	Certified	SM 2320 B-2011		N/A	5	mg/L		
Inorganic/Gen Chem	7664-41-7	Ammonia	Certified	SM 4500 NH <sub>3</sub> G-1997		0.0943	0.25	mg/L		Yes
Inorganic/Gen Chem	N/A	Biochemical Oxygen Demand (BOD5)	Certified	SM 5210 B-2001		N/A	5	mg/L		
Inorganic/Gen Chem	7726-95-6	Bromide	Certified	EPA 300.0 Rev. 2.1 (1993)		0.25	0.5	mg/L		
Inorganic/Gen Chem	N/A	Carbonaceous Biochemical Oxygen Demand (CBOD5)	Certified	SM 5210 B-2001		N/A	5	mg/L		
Inorganic/Gen Chem	N/A	Chemical Oxygen Demand	Certified	SM 5220 D-2011		9.3456	25	mg/L		
Inorganic/Gen Chem	16887-00-6	Chloride	Certified	EPA 300.0 Rev. 2.1 (1993)		0.25	0.5	mg/L		
Inorganic/Gen Chem	16887-00-6	Chloride	Interim	SM 4500 Cl E-1997		6.7969	10	mg/L		
Inorganic/Gen Chem	18540-29-9	Chromium VI	Certified	SM 3500 Cr B-2011		0.007	0.01	mg/L		
Inorganic/Gen Chem	N/A	Color, ADMI	Certified	SM 2120 E-2001		6.286	25	CU		
Inorganic/Gen Chem	7782-41-4	Fluoride	Certified	EPA 300.0 Rev. 2.1 (1993)		0.25	0.5	mg/L		
Inorganic/Gen Chem	N/A	Hardness - Total	Certified	SM 2340 B-2011		N/A	N/A	mg/L		
Inorganic/Gen Chem	N/A	Kjeldahl Nitrogen - Total (TKN)	Certified	SM 4500NH3 G-1997		0.2588	0.4	mg/L		
Inorganic/Gen Chem	14797-55-8	Nitrate (as N)	Certified	EPA 300.0 Rev. 2.1 (1993)		0.055	0.11	mg/L		
Inorganic/Gen Chem	N/A	Nitrate-Nitrite (as N)	Certified	EPA 300.0 Rev. 2.1 (1993)		0.0075	0.015	mg/L		
Inorganic/Gen Chem	1594-56-5	Nitrite (as N)	Certified	EPA 300.0 Rev. 2.1 (1993)		0.075	0.15	mg/L		
Inorganic/Gen Chem	N/A	Nitrogen, Total	Certified	Calculation		N/A	N/A	mg/L		
Inorganic/Gen Chem	N/A	Oil and Grease	Certified	EPA 1664 Rev. B		1.0559	5	mg/L		
Inorganic/Gen Chem	8013-59-0	Organic Nitrogen (as N)	Certified	Calculation		N/A	N/A	mg/L		
Inorganic/Gen Chem	98059-61-1	Ortho-phosphate	Certified	EPA 300.0 Rev. 2.1 (1993)		0.0078	0.16	mg/L		
Inorganic/Gen Chem	98059-61-1	Ortho-phosphate	Interim	EPA 365.1 Rev. 2.0 (1993)		0.025	0.05	mg/L		Yes
Inorganic/Gen Chem	7723-14-0	Phosphorus	Certified	EPA 365.1 Rev. 2.0 (1993)		0.0065	0.05	mg/L		Yes
Inorganic/Gen Chem	N/A	Phosphorus - Elemental	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0512	0.1	mg/L		
Inorganic/Gen Chem	N/A	Settleable Solids	Certified	SM 2540 F-2011		N/A	0.1	mL/L/hr		
Inorganic/Gen Chem	N/A	Solids Volatile	Certified	USGS I-3753-85		N/A	20	mg/L		
Inorganic/Gen Chem	7664-93-9	Sulfate	Certified	EPA 300.0 Rev. 2.1 (1993)		0.25	0.5	mg/L		
Inorganic/Gen Chem	9073-75-0	Sulfide	Certified	SM 4500-S <sup>2-</sup> D-2000		0.0083	0.02	mg/L		
Inorganic/Gen Chem	80879-60-3	Sulfite	Certified	SM 4500 SO <sub>3</sub> <sup>2-</sup> B-2011		0.3564	2	mg/L		
Inorganic/Gen Chem	N/A	Surfactants	Certified	SM 5540 C-2011		0.089	0.2	mg/L		
Inorganic/Gen Chem	N/A	Total Dissolved Solids	Certified	SM 2540 C-2011		N/A	50	mg/L		
Inorganic/Gen Chem	N/A	Total Organic Carbon (TOC)	Certified	SM 5310 C-2011		0.0986	0.5	mg/L		
Inorganic/Gen Chem	N/A	Total Solids	Certified	USGS I-3750-85		N/A	20	mg/L		
Inorganic/Gen Chem	N/A	Total Suspended Solids	Certified	USGS I-3765-85		N/A	5	mg/L		
Inorganic/Metals	7429-0-5	Aluminum	Certified	EPA 200.7, Rev. 4.4 (1994)		0.096	0.1	mg/L		
Inorganic/Metals	7429-0-5	Aluminum	Interim	EPA 200.8, Rev. 5.4 (1994)		5.7673	50	ug/L		
Inorganic/Metals	7440-36-0	Antimony	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0075	0.05	mg/L		
Inorganic/Metals	7440-36-0	Antimony	Interim	EPA 200.8, Rev. 5.4 (1994)		0.5677	6	ug/L		
Inorganic/Metals	7440-38-2	Arsenic	Certified	EPA 200.7, Rev. 4.4 (1994)		0.013	0.05	mg/L		
Inorganic/Metals	7440-38-2	Arsenic	Interim	EPA 200.8, Rev. 5.4 (1994)		0.6211	10	ug/L		

KY Category	CAS #	Analyte	Status	Reference Method	KY Method Code	MDL	MRL	Units	ATP	Method Mod
Inorganic/Metals	7440-39-3	Barium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.003	0.01	mg/L		
Inorganic/Metals	7440-39-3	Barium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3767	2	ug/L		
Inorganic/Metals	7440-41-7	Beryllium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0024	0.01	mg/L		
Inorganic/Metals	7440-41-7	Beryllium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.5353	4	ug/L		
Inorganic/Metals	7440-42-8	Boron	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0322	0.5	mg/L		
Inorganic/Metals	7440-43-9	Cadmium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0015	0.01	mg/L		
Inorganic/Metals	7440-43-9	Cadmium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3052	5	ug/L		
Inorganic/Metals	7440-70-2	Calcium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.3614	0.5	mg/L		
Inorganic/Metals	7440-47-3	Chromium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0031	0.01	mg/L		
Inorganic/Metals	7440-47-3	Chromium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.4017	100	ug/L		
Inorganic/Metals	7440-48-4	Cobalt	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0036	0.02	mg/L		
Inorganic/Metals	7440-48-4	Cobalt	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3891	4.7	ug/L		
Inorganic/Metals	7440-50-8	Copper	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0041	0.02	mg/L		
Inorganic/Metals	7440-50-8	Copper	Interim	EPA 200.8, Rev. 5.4 (1994)		1.0386	25	ug/L		
Inorganic/Metals	7439-89-6	Iron	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0055	0.01	mg/L		
Inorganic/Metals	7439-89-6	Iron	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3381	100	ug/L		
Inorganic/Metals	7439-92-1	Lead	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0026	0.01	mg/L		
Inorganic/Metals	7439-92-1	Lead	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3604	15	ug/L		
Inorganic/Metals	7439-95-4	Magnesium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0932	0.2	mg/L		
Inorganic/Metals	7439-96-5	Manganese	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0009	0.01	mg/L		
Inorganic/Metals	7439-96-5	Manganese	Certified	EPA 200.8, Rev. 5.4 (1994)		0.2897	50	ug/L		
Inorganic/Metals	7439-98-7	Molybdenum	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0104	0.1	mg/L		
Inorganic/Metals	7439-98-7	Molybdenum	Interim	EPA 200.8, Rev. 5.4 (1994)		1.4685	78	ug/L		
Inorganic/Metals	7440-02-0	Nickel	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0023	0.01	mg/L		
Inorganic/Metals	7440-02-0	Nickel	Interim	EPA 200.8, Rev. 5.4 (1994)		0.3086	100	ug/L		
Inorganic/Metals	7440-09-7	Potassium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.1806	0.2	mg/L		
Inorganic/Metals	7782-49-2	Selenium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0066	0.05	mg/L		
Inorganic/Metals	7782-49-2	Selenium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.6684	1	ug/L		
Inorganic/Metals	99439-28-8	Silica	Certified	SM 4500 SiO <sub>2</sub> D-1997		0.0197	0.02	mg/L		
Inorganic/Metals	7440-22-4	Silver	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0039	0.01	mg/L		
Inorganic/Metals	7440-23-5	Sodium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.207	0.5	mg/L		
Inorganic/Metals	7440-28-0	Thallium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0081	0.05	mg/L		
Inorganic/Metals	7440-28-0	Thallium	Interim	EPA 200.8, Rev. 5.4 (1994)		1.3932	2	ug/L		
Inorganic/Metals	7440-31-5	Tin	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0064	0.04	mg/L		
Inorganic/Metals	7440-32-6	Titanium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0019	0.01	mg/L		
Inorganic/Metals	7440-62-2	Vanadium	Certified	EPA 200.7, Rev. 4.4 (1994)		0.0012	0.01	mg/L		
Inorganic/Metals	7440-62-2	Vanadium	Interim	EPA 200.8, Rev. 5.4 (1994)		0.4881	78	ug/L		
Inorganic/Metals	7440-66-6	Zinc	Certified	EPA 200.7, Rev. 4.4 (1994)		0.003	0.01	mg/L		
Inorganic/Metals	7440-66-6	Zinc	Interim	EPA 200.8, Rev. 5.4 (1994)		1.3529	25	ug/L		
Microbiology	N/A	Coliform, fecal	Certified	Colilert 18		N/A	1	MPN/100mL	Reg	
Microbiology	N/A	E. coli, number per 100 mL	Certified	Colilert		N/A	1	MPN/100mL		
Microbiology	N/A	E. coli, number per 100 mL	Certified	Colilert 18		N/A	1	MPN/100mL		
Microbiology	N/A	Enterococci, number per 100 mL	Certified	ASTM D6503-09		N/A	1	MPN/100mL		
ORG/Volatiles	71-55-6	1,1,1-Trichloroethane	Certified	EPA 624		0.0003188	0.005	mg/L		
ORG/Volatiles	79-34-5	1,1,2,2-Tetrachloroethane	Certified	EPA 624		0.0004073	0.005	mg/L		
ORG/Volatiles	79-00-5	1,1,2-Trichloroethane	Certified	EPA 624		0.0002913	0.005	mg/L		
ORG/Volatiles	75-34-3	1,1-Dichloroethane	Certified	EPA 624		0.0002532	0.005	mg/L		

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ORG/Volatiles	75-34-4	1,1-Dichloroethene	Certified	EPA 624		0.0002885	0.005	mg/L		
ORG/Volatiles	95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	Certified	EPA 624		0.0009198	0.005	mg/L		
ORG/Volatiles	107-06-2	1,2-Dichloroethane	Certified	EPA 624		0.0003379	0.005	mg/L		
ORG/Volatiles	78-87-5	1,2-Dichloropropane	Certified	EPA 624		0.0003333	0.005	mg/L		
ORG/Volatiles	541-73-1	1,3-Dichlorobenzene	Certified	EPA 624		0.0004113	0.005	mg/L		
ORG/Volatiles	106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	Certified	EPA 624		0.0005449	0.005	mg/L		
ORG/Volatiles	110-75-8	2-Chloroethylvinyl ether	Certified	EPA 624		0.0002101	0.005	mg/L		
ORG/Volatiles	107-02-8	Acrolein	Certified	EPA 624		0.0014093	0.025	mg/L		
ORG/Volatiles	107-13-1	Acrylonitrile	Certified	EPA 624		0.0003933	0.005	mg/L		
ORG/Volatiles	71-43-2	Benzene	Certified	EPA 624		0.0002745	0.005	mg/L		
ORG/Volatiles	75-27-4	Bromodichloromethane	Certified	EPA 624		0.0003137	0.005	mg/L		
ORG/Volatiles	75-25-2	Bromoform	Certified	EPA 624		0.0003469	0.005	mg/L		
ORG/Volatiles	74-83-9	Bromomethane (Methylbromide)	Certified	EPA 624		0.0013649	0.005	mg/L		
ORG/Volatiles	56-23-5	Carbon tetrachloride	Certified	EPA 624		0.0002461	0.005	mg/L		
ORG/Volatiles	108-90-7	Chlorobenzene	Certified	EPA 624		0.0002732	0.005	mg/L		
ORG/Volatiles	75-00-3	Chloroethane	Certified	EPA 624		0.0004759	0.005	mg/L		
ORG/Volatiles	67-66-3	Chloroform	Certified	EPA 624		0.0001448	0.005	mg/L		
ORG/Volatiles	74-87-3	Chloromethane	Certified	EPA 624		0.0003796	0.005	mg/L		
ORG/Volatiles	542-75-6	cis-1,3-Dichloropropene	Certified	EPA 624		0.000447	0.005	mg/L		
ORG/Volatiles	124-48-1	Dibromochloromethane	Certified	EPA 624		0.0004113	0.005	mg/L		
ORG/Volatiles	100-41-4	Ethylbenzene	Certified	EPA 624		0.0002154	0.005	mg/L		
ORG/Volatiles	75-09-2	Methylene chloride	Certified	EPA 624		0.000315	0.01	mg/L		
ORG/Volatiles	127-18-4	Tetrachloroethene	Certified	EPA 624		0.0003916	0.005	mg/L		
ORG/Volatiles	108-88-3	Toluene	Certified	EPA 624		0.0003189	0.005	mg/L		
ORG/Volatiles	156-60-5	trans-1,2-Dichloroethene	Certified	EPA 624		0.000292	0.005	mg/L		
ORG/Volatiles	99614-02-5	trans-1,3-Dichloropropene	Certified	EPA 624		0.000305	0.005	mg/L		
ORG/Volatiles	79-01-6	Trichloroethene	Certified	EPA 624		0.0003079	0.005	mg/L		
ORG/Volatiles	75-69-4	Trichlorofluoromethane	Certified	EPA 624		0.0002513	0.005	mg/L		
ORG/Volatiles	75-01-4	Vinyl chloride	Certified	EPA 624		0.000233	0.002	mg/L		