



State of Tennessee

**DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES**

Certifies That

Microbac - Knoxville

*Having Met the Requirements of the Regulations for the
Certification of Laboratories Analyzing Drinking Water
is hereby Approved as a*

State Certified Microbiological Laboratory

Total Coliform- Enzyme Substrate Method- Colilert SM9223

Escherichia coli- Enzyme Substrate Method- Colilert SM9223

Total Coliform/Escherichia coli Enumeration - SM 9223 (Colilert Quanti-tray 2000)

Heterotrophic Plate Count - SM9215B

For the Public Water Systems of Tennessee

Laboratory ID Number 02017

Amy P. Francis

Amy P. Francis
Laboratory Certification Officer
Division of Water Resources

Issue Date: 4/25/2017

Expiration Date: 4/25/2020

*This certification is subject to satisfactory performance on E.P.A.
Performance Evaluation Samples, laboratory inspections,
payment of annual fees, is nontransferable and supersedes
previously issued certificates*

Certified Parameters - 2017

TENNESSEE

Microbac - Knoxville Division

TN02017

EPA # TN00018

1/24/2018

Attn: LeAnne Lee
 505 East Broadway Avenue
 Maryville, TN 37804

Parameter	<u>EPA</u> Parameter #	<u>Approved</u> Method	Study Type	<u>Date</u> Complete	PT Provider / WS #
Disinfectant Residuals					
Free Chlorine Residual	1013	SM - 4500-CI G	Proficiency Test	5/25/2017	ERA / WS-249
Total Chlorine Residual	1012	SM - 4500-CI G	Proficiency Test	5/25/2017	ERA / WS-249
Disinfection By-Products					
UV 254 Absorbance	2922	SM - 5910 B	Proficiency Test	1/22/2018	ERA / 120817J2
UV 254 Absorbance	2922	SM - 5910 B	Proficiency Test	5/25/2017	ERA / WS-249
Inorganics					
Alkalinity	1928	SM - 2320 B	Proficiency Test	5/25/2017	ERA / WS-249
Alkalinity	1928	SM - 2320 B	Proficiency Test	11/20/2017	ERA / WS-255
Calcium	1016	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Calcium	1016	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Chloride	1017	EPA - 300.0	Proficiency Test	5/25/2017	ERA / WS-249
Chloride	1017	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
Color	1905	SM - 2120 B	Proficiency Test	11/20/2017	ERA / WS-255
Color	1905	SM - 2120 B	Proficiency Test	5/25/2017	ERA / WS-249
Cyanide	1024	EPA - 335.4	Proficiency Test	5/25/2017	ERA / WS-249
Cyanide	1024	EPA - 335.4	Proficiency Test	11/20/2017	ERA / WS-255
Fluoride	1025	EPA - 300.0	Proficiency Test	7/7/2017	ERA / 060117A
Fluoride	1025	EPA - 300.0	Proficiency Test	1/22/2018	ERA / 120817J2
Iron	1028	EPA - 200.7	Proficiency Test	7/7/2017	ERA / 060117A
Iron	1028	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
MBAS (Foaming Agent)	1089	SM - 5540 C	Proficiency Test	5/25/2017	ERA / WS-249
MBAS (Foaming Agent)	1089	SM - 5540 C	Proficiency Test	11/20/2017	ERA / WS-255
Nitrate	1040	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
Nitrate	1040	EPA - 300.0	Proficiency Test	7/7/2017	ERA / 060117A
Nitrate + Nitrite	1038	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
Nitrate + Nitrite	1038	EPA - 300.0	Proficiency Test	7/7/2017	ERA / 060117A
Nitrite	1041	EPA - 300.0	Proficiency Test	5/25/2017	ERA / WS-249
Nitrite	1041	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
Ortho-phosphate	1044	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
pH	1925	SM - 4500-H+B	Proficiency Test	5/25/2017	ERA / WS-249
pH	1925	SM - 4500-H+B	Proficiency Test	6/22/2017	ERA / WS-250

<u>Parameter</u>	<u>EPA Parameter #</u>	<u>Approved Method</u>	<u>Study Type</u>	<u>Date Complete</u>	<u>PT Provider / WS #</u>
pH	1925	SM - 4500-H+B	Proficiency Test	11/20/2017	ERA / WS-255
Potassium	1042	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Silica	1049	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Silica	1049	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Sodium	1052	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Sodium	1052	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Sulfate	1055	EPA - 300.0	Proficiency Test	11/20/2017	ERA / WS-255
Sulfate	1055	EPA - 300.0	Proficiency Test	5/25/2017	ERA / WS-249
TDS	1930	SM - 2540 C	Proficiency Test	5/25/2017	ERA / WS-249
TDS	1930	SM - 2540 C	Proficiency Test	11/20/2017	ERA / WS-255
Turbidity	0100	EPA - 180.1	Proficiency Test	11/20/2017	ERA / WS-255
Turbidity	0100	EPA - 180.1	Proficiency Test	7/7/2017	ERA / 060117A

Metals

Antimony	1074	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Antimony	1074	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Arsenic	1005	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Arsenic	1005	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Barium	1010	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Barium	1010	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Barium	1010	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Barium	1010	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Beryllium	1075	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Beryllium	1075	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Beryllium	1075	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Beryllium	1075	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Cadmium	1015	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Cadmium	1015	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Cadmium	1015	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Cadmium	1015	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Chromium	1020	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Chromium	1020	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Chromium	1020	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Chromium	1020	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Copper	1022	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Copper	1022	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Copper	1022	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Copper	1022	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Lead	5000	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Lead	5000	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Magnesium	1031	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Magnesium	1031	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Manganese	1032	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255

<u>Parameter</u>	<u>EPA Parameter #</u>	<u>Approved Method</u>	<u>Study Type</u>	<u>Date Complete</u>	<u>PT Provider / WS #</u>
Manganese	1032	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Manganese	1032	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Manganese	1032	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Mercury	1035	EPA - 245.1	Proficiency Test	11/20/2017	ERA / WS-255
Mercury	1035	EPA - 245.1	Proficiency Test	5/25/2017	ERA / WS-249
Nickel	1036	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Nickel	1036	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Nickel	1036	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Nickel	1036	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Selenium	1045	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Selenium	1045	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Thallium	1085	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Thallium	1085	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Uranium (Trace Metal)	4400	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Uranium (Trace Metal)	4400	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Aluminum	1002	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Aluminum	1002	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Aluminum	1002	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Aluminum	1002	EPA - 200.7	Proficiency Test	7/7/2017	ERA / 060117A
Silver	1050	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Silver	1050	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Silver	1050	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Silver	1050	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249
Zinc	1095	EPA - 200.7	Proficiency Test	11/20/2017	ERA / WS-255
Zinc	1095	EPA - 200.8	Proficiency Test	5/25/2017	ERA / WS-249
Zinc	1095	EPA - 200.8	Proficiency Test	11/20/2017	ERA / WS-255
Zinc	1095	EPA - 200.7	Proficiency Test	5/25/2017	ERA / WS-249

Microbiologicals

Escherichia coli, Colilert	3014	SM - 9223	Proficiency Test	11/20/2017	ERA / WS-255
Escherichia coli, Colilert	3014	SM - 9223	Proficiency Test	6/22/2017	ERA / WS-250
Escherichia coli, Colilert	3014	SM - 9223	Proficiency Test	5/25/2017	ERA / WS-249
Heterotrophic Bacteria, Pour plate metho	3001	SM - 9215 B	Proficiency Test	7/7/2017	ERA / 060117A
Heterotrophic Bacteria, Pour plate metho	3001	SM - 9215 B	Proficiency Test	11/20/2017	ERA / WS-255
Total Coliform, Colilert	3000	SM - 9223	Proficiency Test	5/25/2017	ERA / WS-249
Total Coliform, Colilert	3000	SM - 9223	Proficiency Test	11/20/2017	ERA / WS-255