



Accredited Laboratory

A2LA has accredited

MICROBAC LABORATORIES, INC. KNOXVILLE DIVISION

Maryville, TN

for technical competence in the field of

Environmental Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of A2LA R206 – *Specific Requirements – Environmental Testing Laboratory Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 10th day of June 2021.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3131.03
Valid to May 31, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

MICROBAC LABORATORIES, INC. – KNOXVILLE DIVISION
 505 East Broadway Ave.
 Maryville, TN 37804
 T.J. McCallum Phone: 865 997 1200

ENVIRONMENTAL

Valid To: May 31, 2023

Certificate Number: 3131.03

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with the 2016 TNI Environmental Testing Laboratory Standard), accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

Testing Technologies: Cold Vapor AA (CVAA), ICP, ICP/MS, Ion Chromatography, SmartChem Analyzer, Rapid T Analyzer, and Skalar (Demands).

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Non-potable Water</u>
<u>Metals</u>		
Aluminum	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Antimony	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Arsenic	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Barium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Beryllium	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Boron	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Cadmium	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Calcium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Chromium	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Chromium (III)	-----	Calculation
Cobalt	-----	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Copper	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.8, Rev. 5.4 (1994)
Iron	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Lead	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Magnesium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Non-potable Water</u>
Manganese	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Mercury	EPA 245.1, Rev. 3.0 (1994)	EPA 245.1, Rev. 3.0 (1994)
Molybdenum	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Nickel	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Potassium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Selenium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Silicon	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Silver	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Sodium	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
Strontium	-----	EPA 200.7, Rev. 4.4 (1994)
Thallium	EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Tin	-----	EPA 200.7, Rev. 4.4 (1994)
Titanium	-----	EPA 200.7, Rev. 4.4 (1994)
Vanadium	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)
Zinc	EPA 200.7, Rev. 4.4 (1994) EPA 200.8, Rev. 5.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
<u>Nutrients</u>		
Ammonia (as N)	-----	EPA 350.1, Rev. 2.0 (1993)
Kjeldahl Nitrogen	EPA 350.1, Rev. 2.0 (1993)	EPA 350.1, Rev. 2.0 (1993)
Nitrate (as N)	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Nitrate-Nitrite (as N)	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Nitrite (as N)	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Organic Nitrogen	-----	Calculation
Orthophosphate (as P)	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Nitrogen, Total	-----	Calculation
Phosphorus, Total	EPA 200.7, Rev. 4.4 (1994)	EPA 200.7, Rev. 4.4 (1994)
<u>Demands</u>		
Biochemical Oxygen Demand (BOD)	-----	SM 5210 B-2011
Carbonaceous BOD	-----	SM 5210 B-2011
Chemical Oxygen Demand (COD)	-----	SM 5220 D-2011
<u>Wet Chemistry</u>		
Alkalinity	SM 2320 B-2011	SM 2320 B-2011
Bromide	-----	EPA 300.0, Rev 2.1 (1993)
Chloride	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Chlorine (Residual)	SM 4500-Cl G-2011	SM 4500-Cl G-2011
Chromium VI	-----	SM 3500-Cr B-2011
Color	SM 2120 B-2011	SM 2120 B-2011
Cyanide	EPA 335.4, Rev. 1.0 (1993)	EPA 335.4, Rev. 1.0 (1993)
Fluoride	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Non-potable Water</u>
Hardness	SM 2340 B-2011	SM 2340 B-2011
Oil and Grease	-----	EPA 1664B
pH	SM 4500-H ⁺ B-2000	EPA 9040B/9041A SM 4500-H ⁺ B-2000
Residue – Total	-----	SM 2540 B-2011
Residue – Filterable	SM 2540C	SM 2540 C-2011
Residue – Non-filterable (TSS)	-----	SM 2540 D-2011
Residue – Settleable	-----	SM 2540 F-2011
Specific Conductance	EPA 120.1 (Rev. 1982) SM 2510 B-2011	EPA 120.1 (Rev. 1982) SM 2510 B-2011
Sulfate	EPA 300.0, Rev 2.1 (1993)	EPA 300.0, Rev 2.1 (1993)
Turbidity	EPA 180.1, Rev. 2.0 (1993)	EPA 180.1, Rev. 2.0 (1993)
UV254	SM 5910B-2001	-----
<u>Microbiology</u>		
Coliforms, Fecal	SM 9223 B-2004	SM 9223 B-2004
Coliforms, Total and <i>Escherichia coli</i>	SM 9223 B-2004	SM 9223 B-2004