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**west virginia** department of environmental protection

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Division of Water and Waste Management  
601 57th Street SE  
Charleston, WV 25304-2345  
Phone: (304) 926-0495  
Fax: (304) 926-0497

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.wv.dep.gov](http://www.wv.dep.gov)

April 24, 2012

Tabetha Fisher  
Quality System Manager  
Microbac Laboratories - Pittsburgh  
100 Marshall Drive  
Thorn Hill Industrial Park  
Warrendale, PA 15086

Dear Ms. Fisher:

Please find enclosed an ATTACHMENT I recertifying your facility through April 30, 2013.

If you have any questions, and if I can be of further assistance please call me at (304) 926-0499 ext. 1341 or e-mail me at [Daniel.T.Arnold@wv.gov](mailto:Daniel.T.Arnold@wv.gov).

Sincerely,

Daniel T. Arnold  
Program Manager  
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Enclosure:

Attachment I

WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER AND WASTE MANAGEMENT

List of Certified Parameters  
for

**MICROBAC LABORATORIES - PITTSBURGH**  
**WARRENDALE, PENNSYLVANIA**

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Acidity	SM20th2310 B	Titrimetric
Alkalinity	SM20th2320 B	Titrimetric
Ammonia	SM20th4500-NH3 B	Distillation
Ammonia	SM20th4500-NH3 D	ISE
Ammonia	SM20th4500-NH3 G	Spectrophotometric
Bromide	ASTM D1246	Titrimetric
Bromide	SW9211	ISE
Carbon, Total Organic (TOC)	SM20th5310 C	Oxidation
Carbon, Total Organic (TOC)	SW9060A	Oxidation
Chloride	ASTM D512-89(99) C	ISE
Chloride	SM20th4500-Cl-E	Colorimetric
Chloride	SW9251	Colorimetric
Chlorine, Residual	HACH 8167	Spectrophotometric
Chlorine, Residual	SM20th4500-Cl G	Spectrophotometric
Color	SM20th2120 B	Visual Comparison
Conductance, Specific	EPA120.1 Rev 1982	Probe
Conductance, Specific	SM20th2510 B	Probe
Conductance, Specific	SW9050A	Probe
Cyanide	SM20th4500-CN C	Distillation
Cyanide, Amenable to Chlorination	SM20th4500-CN G	Distillation
Cyanide, Total	SM20th4500-CN E	Colorimetric
Cyanide, Total	SW9014	Spectrophotometric
Cyanide, Total & Amenable	SW9010B	Distillation
Fluoride	SM20th4500-F B	Distillation
Fluoride	SM20th4500-F C	ISE
Fluoride	SW9214	ISE
Halides, Total Organic	SM5320 B	Titrimetric
Halides, Total Organic	SW9020B	Titrimetric
Hardness, Calcium	SM20th2340 B	Calculation
Hardness, Total	SM20th2340 B	Calculation
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate	SM20th4500-NO3 F	Calculation

Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate-Nitrite	SM20th4500-NO3 F	Spectrophotometric
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	SM20th4500-NO3 F	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-NH3 B	Distillation
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-NH3 D	ISE
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-Norg B	Digestion
Oil & Grease	EPA1664 A	Gravimetric
Oil & Grease	SW9070A	Gravimetric
Oxygen Demand, Biochemical (BOD)	SM20th5210 B	Probe
Oxygen Demand, Biochemical Carbonaceous (CBOD)	SM20th5210 B	Probe
Oxygen Demand, Chemical (COD)	EPA410.4 Rev 2.0-1993	Spectrophotometric
Oxygen Demand, Chemical (COD)	HACH 8000	Spectrophotometric
Oxygen Demand, Chemical (COD)	SM20th5220 D	Digestion
Oxygen Demand, Chemical (COD)	SM20th5220 D	Spectrophotometric
Oxygen, Dissolved	SM20th4500-O G	Probe
pH (Hydrogen Ion)	SM20th4500-H B	Electrode
pH (Hydrogen Ion)	SW9040C	Electrode
Phenolics, Total	EPA420.1 Rev 1978	Distillation
Phenolics, Total	EPA420.1 Rev 1978	Spectrophotometric
Phenolics, Total	EPA420.4 Rev1.0-1993	Discrete
Phenolics, Total	SW9065	Spectrophotometric
Phosphorus, Ortho	SM20th4500-P F	Spectrophotometric
Phosphorus, Total	SM20th4500-P B.5	Digestion
Phosphorus, Total	SM20th4500-P F	Spectrophotometric
Silica	SM19th4500-SiO2 D	Colorimetric
Silica	SM20th4500-SiO2 C	Colorimetric
Solids, Dissolved	SM20th2540 C	Gravimetric
Solids, Settleable	SM20th2540 F	Imhoff
Solids, Suspended	SM20th2540 D	Gravimetric
Solids, Total	SM20th2540 B	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Solids, Volatile	SM20th2540 E	Gravimetric
Sulfate	ASTM D516-02	Turbidimetric
Sulfate	SM15th426 C	Turbidimetric
Sulfate	SW9038	Turbidimetric
Sulfide	SM20th4500-S D	Colorimetric
Sulfite	EPA377.1 (1978)	Titrimetric
Sulfite	SM20th4500-SO3 B	Titrimetric
Surfactants (MBAS)	SM20th5540 C	Spectrophotometric
Temperature	SM19th2550 B	Thermometric
Turbidity	EPA180.1 Rev 2.0-1993	Turbidimetric
Turbidity	SM20th2130 B	Turbidimetric

#### NONPOTABLE WATER TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Aluminum	SW6010B	ICP
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	SM19th3113 B	GFAA
Antimony	SW6010B	ICP

Antimony	SW7010	GFAA
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Arsenic	SM19th3113 B	GFAA
Arsenic	SW6010B	ICP
Arsenic	SW7010	GFAA
Barium	EPA200.7 Rev 4.4-1994	ICP
Barium	SW6010B	ICP
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	SW6010B	ICP
Boron	EPA200.7 Rev 4.4-1994	ICP
Boron	SW6010B	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Cadmium	SW6010B	ICP
Calcium	EPA200.7 Rev 4.4-1994	ICP
Calcium	SW6010B	ICP
Chromium	EPA200.7 Rev 4.4-1994	ICP
Chromium	SW6010B	ICP
Chromium, Hexavalent	SM20th3500-Cr B	Spectrophotometric
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Cobalt	SW6010B	ICP
Copper	EPA200.7 Rev 4.4-1994	ICP
Copper	SW6010B	ICP
Iron	EPA200.7 Rev 4.4-1994	ICP
Iron	SW6010B	ICP
Lead	EPA200.7 Rev 4.4-1994	ICP
Lead	SM19th3113 B	GFAA
Lead	SW6010B	ICP
Lead	SW7010	GFAA
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Magnesium	SW6010B	ICP
Manganese	EPA200.7 Rev 4.4-1994	ICP
Manganese	SW6010B	ICP
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SW7470A	CVAA
Metals, Dissolved	EPA200.7 Rev 4.4-1994	Filtration
Metals, Total	EPA200.7 Rev 4.4-1994	Digestion
Metals, Total	SW3005A	Digestion
Metals, Total	SW3010A	Digestion
Molybdenum	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	SM19th3113 B	GFAA
Molybdenum	SW6010B	ICP
Molybdenum	SW7010	GFAA
Nickel	EPA200.7 Rev 4.4-1994	ICP
Nickel	SW6010B	ICP
Potassium	EPA200.7 Rev 4.4-1994	ICP
Potassium	SW6010B	ICP
Selenium	EPA200.7 Rev 4.4-1994	ICP
Selenium	SM19th3113 B	GFAA
Selenium	SW6010B	ICP
Selenium	SW7010	GFAA
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.9 Rev 2.2-1994	STGFAA
Silver	SM19th3113 B	GFAA

Silver	SW6010B	ICP
Sodium	EPA200.7 Rev 4.4-1994	ICP
Sodium	SW6010B	ICP
Strontium	EPA200.7 Rev 4.4-1994	ICP
Strontium	SW6010B	ICP
Thallium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.9 Rev 2.2-1994	STGFAA
Thallium	SW6010B	ICP
Thallium	SW7010	GFAA
Tin	EPA200.7 Rev 4.4-1994	ICP
Tin	SW6010B	ICP
Titanium	EPA200.7 Rev 4.4-1994	ICP
Titanium	SW6010B	ICP
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	SW6010B	ICP
Zinc	EPA200.7 Rev 4.4-1994	ICP
Zinc	SW6010B	ICP

NONPOTABLE WATER MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Coliform, Fecal (MF)	SM20th9222 D	Membrane Filter
Coliform, Fecal (MPN)	SM20th9221 E	Multiple Tube
Coliform, Total (MF)	SM20th9222 B	Membrane Filter
Coliform, Total (MPN)	SM20th9221 B	Multiple Tube
Heterotrophic Plate Count (HPC)	SM20th9215 B	Pour Plate

NONPOTABLE WATER EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Glycols	SW8015B	GC/FID

HAZARDOUS WASTE CHARACTERISTICS

<u>PROCEDURE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Corrosivity	SW9040C	Electrode
Ignitability	SW1010	Closed Cup
Paint Filter Test	SW9095B	Gravimetric

SOLID AND CHEMICAL INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
18 H DI Leachate	ASTM D3987-85	Extraction
Ammonia	EPA350.1 Rev 2.0-1993	Spectrophotometric
Ammonia	SM20th4500-NH3 B	Distillation
Ammonia	SM20th4500-NH3 D	ISE
Ammonia	SM20th4500-NH3 G	Spectrophotometric
Bromide	ASTM D1246	Titrimetric
Bromide	SW9211	ISE
Chloride	ASTM D512-89(99) C	ISE

Chloride	SW9251	Colorimetric
Cyanide, Total	SW9014	Titrimetric
Cyanide, Total & Amenable	SW9010B	Distillation
Fluoride	SW9214	ISE
Halides, Extractable Organic (EOX)	SW9023	Titrimetric
Nitrate	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate	SM20th4500 NO3-F	Spectrophotometric
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate-Nitrite	SM20th4500-NO3 F	Spectrophotometric
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	SM20th4500-NO3 F	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-NH3 B	Distillation
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-NH3 D	ISE
Nitrogen, Total Kjeldahl (TKN)	SM20th4500-Norg B	Digestion
Oil & Grease	SW9071A	Gravimetric
pH (Hydrogen Ion)	SW9045D	Electrode
Phenolics, Total	SW9065	Spectrophotometric
Phosphorus, Ortho	SM20th4500-P E	Spectrophotometric
Phosphorus, Total	SM20th4500-P B.5	Digestion
Phosphorus, Total	SM20th4500-P E	Spectrophotometric
Solids, Total, Fixed, & Volatile	SM20th2540 G	Gravimetric
Sulfate	SW9038	Turbidimetric

#### SOLID AND CHEMICAL TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Arsenic	SW6010B	ICP
Barium	SW6010B	ICP
Beryllium	SW6010B	ICP
Boron	SW6010B	ICP
Cadmium	SW6010B	ICP
Calcium	SW6010B	ICP
Chromium	SW6010B	ICP
Chromium, Hexavalent	SM20th3500-Cr B	Spectrophotometric
Chromium, Hexavalent	SW3060A	Digestion
Chromium, Hexavalent	SW7196A	Spectrophotometric
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Iron	SW6010B	ICP
Lead	SW6010B	ICP
Lithium	SW6010B	ICP
Magnesium	SW6010B	ICP
Manganese	SW6010B	ICP
Mercury	SW7471A	CVAA
Metals, Total	SW3050B	Digestion
Molybdenum	SW6010B	ICP
Nickel	SW6010B	ICP
Phosphorus	SW6010B	ICP
Potassium	SW6010B	ICP
Selenium	SW6010B	ICP
Silver	SW6010B	ICP

Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP

SOLID AND CHEMICAL MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Coliform, Fecal (MPN)	EPA625-R-92-013 App F	Multiple Tube
Coliform, Fecal (MPN)	SM20th9221 E	Multiple Tube

This laboratory may test **ONLY** for those environmental parameters listed above for compliance reporting purposes. All testing must be by the test method cited in the current application for certification.

This Certification Expires April 30, 2013.

Certificate No 215



\_\_\_\_\_ Issued on April 24, 2012

Daniel T. Arnold  
Program Manager