

The State of
Department



Washington
of Ecology

Empirical Laboratories, LLC
Nashville, TN

has complied with provisions set forth in Chapter 173-50 WAC and is hereby recognized by the Department of Ecology as an ACCREDITED LABORATORY for the analytical parameters listed on the accompanying Scope of Accreditation. This certificate is effective March 19, 2017 and shall expire March 18, 2018.

Witnessed under my hand on March 23, 2017

Alan D. Rue
Lab Accreditation Unit Supervisor

Laboratory ID
C934

WASHINGTON STATE DEPARTMENT OF ECOLOGY

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

SCOPE OF ACCREDITATION

Empirical Laboratories, LLC

Nashville, TN

is accredited for the analytes listed below using the methods indicated. Full accreditation is granted unless stated otherwise in a note. EPA is the U.S. Environmental Protection Agency. SM is "Standard Methods for the Examination of Water and Wastewater." ASTM is the American Society for Testing and Materials. USGS is the U.S. Geological Survey. AOAC is the Association of Official Analytical Chemists. Other references are described in notes.

Matrix/Analyte	Method	Notes
Non-Potable Water		
Chloride	EPA 300.0_2.1_1993	1
Nitrate	EPA 300.0_2.1_1993	1
Nitrite	EPA 300.0_2.1_1993	1,3
Sulfate	EPA 300.0_2.1_1993	1
Nitrate + Nitrite	EPA 353.2_2_1993	1
Chemical Oxygen Demand (COD)	EPA 410.4_2_1993	1
Alkalinity	SM 2320 B-97	1
Solids, Total Dissolved	SM 2540 C-97	1
Nitrite	SM 4500-NO ₂ ⁻ B-00	1
Biochemical Oxygen Demand (BOD)	SM 5210 B-01	1
Carbonaceous BOD (CBOD)	SM 5210 B-01	1
Total organic carbon	SM 5310 C-00	1
Solid and Chemical Materials		
Aluminum	EPA 6010D_(07/14)	1
Antimony	EPA 6010D_(07/14)	1
Arsenic	EPA 6010D_(07/14)	1
Barium	EPA 6010D_(07/14)	1
Beryllium	EPA 6010D_(07/14)	1
Boron	EPA 6010D_(07/14)	1
Cadmium	EPA 6010D_(07/14)	1
Calcium	EPA 6010D_(07/14)	1,3
Chromium	EPA 6010D_(07/14)	1

Washington State Department of Ecology

Effective Date: 3/19/2017

Scope of Accreditation Report for Empirical Laboratories, LLC

C934-17

Laboratory Accreditation Unit

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Scope Expires: 3/18/2018

Empirical Laboratories, LLC

Matrix/Analyte	Method	Notes
Cobalt	EPA 6010D_(07/14)	1
Copper	EPA 6010D_(07/14)	1
Iron	EPA 6010D_(07/14)	1
Lead	EPA 6010D_(07/14)	1
Magnesium	EPA 6010D_(07/14)	1
Manganese	EPA 6010D_(07/14)	1
Molybdenum	EPA 6010D_(07/14)	1
Nickel	EPA 6010D_(07/14)	1
Potassium	EPA 6010D_(07/14)	1
Selenium	EPA 6010D_(07/14)	1
Silver	EPA 6010D_(07/14)	1
Sodium	EPA 6010D_(07/14)	1
Strontium	EPA 6010D_(07/14)	1
Thallium	EPA 6010D_(07/14)	1
Tin	EPA 6010D_(07/14)	1
Titanium	EPA 6010D_(07/14)	1
Zinc	EPA 6010D_(07/14)	1
Mercury	EPA 7470A_1_1994	1,2
Mercury	EPA 7471B_(1/98)	1
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8330B_(10/06)	1
1,3-Dinitrobenzene (1,3-DNB)	EPA 8330B_(10/06)	1
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8330B_(10/06)	1
2,4-Dinitrotoluene (2,4-DNT)	EPA 8330B_(10/06)	1
2,6-Dinitrotoluene (2,6-DNT)	EPA 8330B_(10/06)	1
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8330B_(10/06)	1
2-Nitrotoluene	EPA 8330B_(10/06)	1
3,5-Dinitroaniline	EPA 8330B_(10/06)	1
3-Nitrotoluene	EPA 8330B_(10/06)	1
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8330B_(10/06)	1
4-Nitrotoluene	EPA 8330B_(10/06)	1
Nitrobenzene	EPA 8330B_(10/06)	1
Nitroglycerin	EPA 8330B_(10/06)	1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8330B_(10/06)	1
Pentaerythritoltetranitrate (PETN)	EPA 8330B_(10/06)	1
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8330B_(10/06)	1
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8330B_(10/06)	1

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Matrix/Analyte	Method	Notes
1,1,1,2-Tetrachloroethane	EPA 8260C_(8/06)	1
1,1,1-Trichloroethane	EPA 8260C_(8/06)	1
1,1,2,2-Tetrachloroethane	EPA 8260C_(8/06)	1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260C_(8/06)	1
1,1,2-Trichloroethane	EPA 8260C_(8/06)	1
1,1-Dichloroethane	EPA 8260C_(8/06)	1
1,1-Dichloroethylene	EPA 8260C_(8/06)	1
1,2,3-Trichlorobenzene	EPA 8260C_(8/06)	1
1,2,3-Trichloropropane	EPA 8260C_(8/06)	1
1,2,4-Trichlorobenzene	EPA 8260C_(8/06)	1
1,2,4-Trimethylbenzene	EPA 8260C_(8/06)	1
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260C_(8/06)	1
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260C_(8/06)	1
1,2-Dichlorobenzene	EPA 8260C_(8/06)	1
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260C_(8/06)	1
1,2-Dichloropropane	EPA 8260C_(8/06)	1
1,3,5-Trimethylbenzene	EPA 8260C_(8/06)	1
1,3-Dichlorobenzene	EPA 8260C_(8/06)	1
1,3-Dichloropropane	EPA 8260C_(8/06)	1
1,4-Dichloro-2-butene	EPA 8260C_(8/06)	1
1,4-Dichlorobenzene	EPA 8260C_(8/06)	1
1,4-Dioxane (1,4- Diethyleneoxide)	EPA 8260C_(8/06)	1
1-Chlorohexane	EPA 8260C_(8/06)	1
2,2-Dichloropropane	EPA 8260C_(8/06)	1
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260C_(8/06)	1
2-Chloroethyl vinyl ether	EPA 8260C_(8/06)	1
2-Chlorotoluene	EPA 8260C_(8/06)	1
2-Hexanone	EPA 8260C_(8/06)	1
4-Chlorotoluene	EPA 8260C_(8/06)	1
4-Isopropyltoluene (p-Cymene)	EPA 8260C_(8/06)	1
4-Methyl-2-pentanone (MIBK)	EPA 8260C_(8/06)	1
Acetone	EPA 8260C_(8/06)	1
Acetonitrile	EPA 8260C_(8/06)	1
Acrolein (Propenal)	EPA 8260C_(8/06)	1
Acrylonitrile	EPA 8260C_(8/06)	1
Benzene	EPA 8260C_(8/06)	1

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Matrix/Analyte	Method	Notes
Bromobenzene	EPA 8260C_(8/06)	1
Bromochloromethane	EPA 8260C_(8/06)	1
Bromodichloromethane	EPA 8260C_(8/06)	1
Bromoform	EPA 8260C_(8/06)	1
Carbon disulfide	EPA 8260C_(8/06)	1
Carbon tetrachloride	EPA 8260C_(8/06)	1
Chlorobenzene	EPA 8260C_(8/06)	1
Chlorodibromomethane	EPA 8260C_(8/06)	1
Chloroethane (Ethyl chloride)	EPA 8260C_(8/06)	1
Chloroform	EPA 8260C_(8/06)	1
cis & trans-1,2-Dichloroethene	EPA 8260C_(8/06)	1
cis-1,2-Dichloroethylene	EPA 8260C_(8/06)	1
cis-1,3-Dichloropropene	EPA 8260C_(8/06)	1
Cyclohexane	EPA 8260C_(8/06)	1
Dibromomethane	EPA 8260C_(8/06)	1
Dichlorodifluoromethane (Freon-12)	EPA 8260C_(8/06)	1
Ethyl methacrylate	EPA 8260C_(8/06)	1
Ethylbenzene	EPA 8260C_(8/06)	1
Hexachlorobutadiene	EPA 8260C_(8/06)	1
Iodomethane (Methyl iodide)	EPA 8260C_(8/06)	1
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260C_(8/06)	1
Isopropylbenzene	EPA 8260C_(8/06)	1
m+p-xylene	EPA 8260C_(8/06)	1
Methacrylonitrile	EPA 8260C_(8/06)	1
Methyl acetate	EPA 8260C_(8/06)	1
Methyl bromide (Bromomethane)	EPA 8260C_(8/06)	1
Methyl chloride (Chloromethane)	EPA 8260C_(8/06)	1
Methyl methacrylate	EPA 8260C_(8/06)	1
Methyl tert-butyl ether (MTBE)	EPA 8260C_(8/06)	1
Methylcyclohexane	EPA 8260C_(8/06)	1
Methylene chloride (Dichloromethane)	EPA 8260C_(8/06)	1
Naphthalene	EPA 8260C_(8/06)	1
n-Butylbenzene	EPA 8260C_(8/06)	1
o-Xylene	EPA 8260C_(8/06)	1
Propionitrile (Ethyl cyanide)	EPA 8260C_(8/06)	1
sec-Butylbenzene	EPA 8260C_(8/06)	1

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Matrix/Analyte	Method	Notes
Styrene	EPA 8260C_(8/06)	1
tert-Butylbenzene	EPA 8260C_(8/06)	1
Tetrachloroethylene (Perchloroethylene)	EPA 8260C_(8/06)	1
Toluene	EPA 8260C_(8/06)	1
trans-1,2-Dichloroethylene	EPA 8260C_(8/06)	1
trans-1,3-Dichloropropylene	EPA 8260C_(8/06)	1
trans-1,4-Dichloro-2-butene	EPA 8260C_(8/06)	1
Trichloroethene (Trichloroethylene)	EPA 8260C_(8/06)	1
Trichlorofluoromethane (Freon 11)	EPA 8260C_(8/06)	1
Vinyl acetate	EPA 8260C_(8/06)	1
Vinyl chloride	EPA 8260C_(8/06)	1
Xylene (total)	EPA 8260C_(8/06)	1
1,1'-Biphenyl (BZ-0)	EPA 8270D_(2/07)	1
1,2,4,5-Tetrachlorobenzene	EPA 8270D_(2/07)	1
1,2,4-Trichlorobenzene	EPA 8270D_(2/07)	1
1,2-Dichlorobenzene	EPA 8270D_(2/07)	1
1,3-Dichlorobenzene	EPA 8270D_(2/07)	1
1,4-Dichlorobenzene	EPA 8270D_(2/07)	1
1,4-Dioxane (1,4- Diethyleneoxide)	EPA 8270D_(2/07)	1
1-Methylnaphthalene	EPA 8270D_(2/07)	1
2,3,4,6-Tetrachlorophenol	EPA 8270D_(2/07)	1
2,4,5-Trichlorophenol	EPA 8270D_(2/07)	1
2,4,6-Trichlorophenol	EPA 8270D_(2/07)	1
2,4-Dichlorophenol	EPA 8270D_(2/07)	1
2,4-Dimethylphenol	EPA 8270D_(2/07)	1
2,4-Dinitrophenol	EPA 8270D_(2/07)	1
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270D_(2/07)	1
2,6-Dichlorophenol	EPA 8270D_(2/07)	1
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270D_(2/07)	1
2-Chloronaphthalene	EPA 8270D_(2/07)	1
2-Chlorophenol	EPA 8270D_(2/07)	1
2-Methyl-4,6-dinitrophenol	EPA 8270D_(2/07)	1
2-Methylnaphthalene	EPA 8270D_(2/07)	1
2-Methylphenol (o-Cresol)	EPA 8270D_(2/07)	1
2-Nitroaniline	EPA 8270D_(2/07)	1
2-Nitrophenol	EPA 8270D_(2/07)	1

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Matrix/Analyte	Method	Notes
3,3'-Dichlorobenzidine	EPA 8270D_(2/07)	1
3-Nitroaniline	EPA 8270D_(2/07)	1
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270D_(2/07)	1
4-Chloro-3-methylphenol	EPA 8270D_(2/07)	1
4-Chloroaniline	EPA 8270D_(2/07)	1
4-Chlorophenyl phenylether	EPA 8270D_(2/07)	1
4-Nitroaniline	EPA 8270D_(2/07)	1
4-Nitrophenol	EPA 8270D_(2/07)	1
Acenaphthene	EPA 8270D_(2/07)	1
Acenaphthylene	EPA 8270D_(2/07)	1
Acetophenone	EPA 8270D_(2/07)	1
Aniline	EPA 8270D_(2/07)	1
Anthracene	EPA 8270D_(2/07)	1
Atrazine	EPA 8270D_(2/07)	1
Benzaldehyde	EPA 8270D_(2/07)	1
Benzo(a)anthracene	EPA 8270D_(2/07)	1
Benzo(a)pyrene	EPA 8270D_(2/07)	1
Benzo(g,h,i)perylene	EPA 8270D_(2/07)	1
Benzo(k)fluoranthene	EPA 8270D_(2/07)	1
Benzo[b]fluoranthene	EPA 8270D_(2/07)	1
Benzyl alcohol	EPA 8270D_(2/07)	1
bis(2-Chloroethoxy)methane	EPA 8270D_(2/07)	1
bis(2-Chloroethyl) ether	EPA 8270D_(2/07)	1
bis(2-Chloroisopropyl) ether	EPA 8270D_(2/07)	1
bis(2-Ethylhexyl) phthalate (DEHP)	EPA 8270D_(2/07)	1
Butyl benzyl phthalate	EPA 8270D_(2/07)	1
Caprolactam	EPA 8270D_(2/07)	1
Carbazole	EPA 8270D_(2/07)	1
Chrysene	EPA 8270D_(2/07)	1
Dibenz(a,h) anthracene	EPA 8270D_(2/07)	1
Dibenzofuran	EPA 8270D_(2/07)	1
Diethyl phthalate	EPA 8270D_(2/07)	1
Dimethyl phthalate	EPA 8270D_(2/07)	1
Di-n-butyl phthalate	EPA 8270D_(2/07)	1
Di-n-octyl phthalate	EPA 8270D_(2/07)	1
Fluoranthene	EPA 8270D_(2/07)	1

Matrix/Analyte	Method	Notes
Fluorene	EPA 8270D_(2/07)	1
Hexachlorobenzene	EPA 8270D_(2/07)	1
Hexachlorobutadiene	EPA 8270D_(2/07)	1
Hexachlorocyclopentadiene	EPA 8270D_(2/07)	1
Hexachloroethane	EPA 8270D_(2/07)	1
Indeno(1,2,3-cd) pyrene	EPA 8270D_(2/07)	1
Isophorone	EPA 8270D_(2/07)	1
m+p Cresol	EPA 8270D_(2/07)	1
Naphthalene	EPA 8270D_(2/07)	1
Nitrobenzene	EPA 8270D_(2/07)	1
N-Nitrosodimethylamine	EPA 8270D_(2/07)	1
N-Nitroso-di-n-propylamine	EPA 8270D_(2/07)	1
N-Nitrosodiphenylamine	EPA 8270D_(2/07)	1
Pentachlorophenol	EPA 8270D_(2/07)	1
Phenanthrene	EPA 8270D_(2/07)	1
Phenol	EPA 8270D_(2/07)	1
Pyrene	EPA 8270D_(2/07)	1
Pyridine	EPA 8270D_(2/07)	1

Accredited Parameter Note Detail

(1) Accreditation based in part on recognition of the State of Florida NELAP certification.(2) Accreditation is limited to liquid matrix only. (3) Provisional accreditation pending submittal of acceptable Proficiency Testing (PT) results (WAC 173-50-110).



03/23/2017

 Authentication Signature
 Alan D. Rue, Lab Accreditation Unit Supervisor

 Date