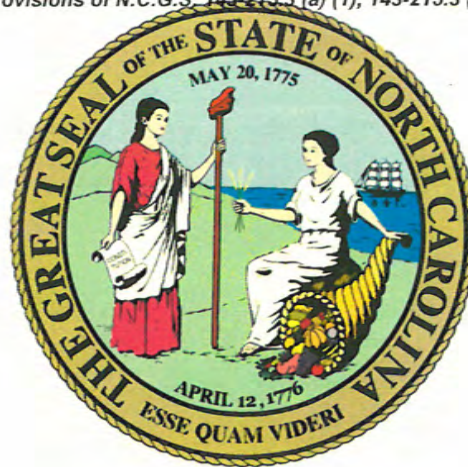


DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

In accordance with the provisions of N.C.G.S. 143-215.3 (a) (1), 143-215.3 (a)(10) and NCAC 2H.0800:



2017

Empirical Laboratories, LLC

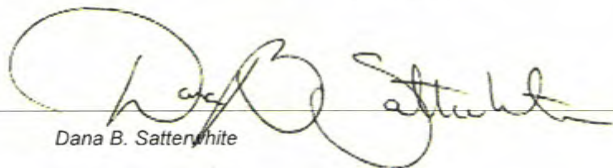
Is hereby certified to perform environmental analysis as listed on Attachment I and report monitoring data to DEQ for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.

By reference 15A NCAC 2H .0800 is made a part of this certificate.

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control procedures, records, and proficiency of the laboratory have been examined and found to be acceptable.

This certificate shall be valid until 12/31/2017

Certificate No. 643


Dana B. Satterwhite

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Empirical Laboratories LLC
Address: 621 Mainstream Drive, Suite 270
Nashville, TN 37228-

Certificate Number: 643
Effective Date: 1/1/2017
Expiration Date: 12/31/2017
Date of Last Amendment: 5/8/2017

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS

INORGANIC

ALKALINITY

SM 2320 B-1997 (Aqueous)

CHLORIDE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

CYANIDE

EPA 335.4, Rev. 1.0, 1993 (Total) (Aqueous)

SW-846 9012 B (Total) (Aqueous)

SW-846 9012 B (Total) (Non-Aqueous)

IGNITABILITY

SW-846 1010 A (Pensky-Martens) (Aqueous)

NITROGEN, NITRATE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

NITROGEN, NITRITE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

ORGANIC CARBON, TOTAL

SM 5310 C-2000 (Heated Persulfate) (Aqueous)

SW-846 9060 A (Heated Persulfate) (Aqueous)

pH

SM 4500 H+B-2000 (Aqueous)

SW-846 9040 C (Aqueous)

SW-846 9045 D (Non-Aqueous)

SULFATE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

SULFIDE

SM 4500 S²⁻ F-2000 (Aqueous)

METAL

TCLP METALS

SW-846 1311 (Aqueous)

SW-846 1311 (Non-Aqueous)

ALUMINUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

ANTIMONY

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

ARSENIC

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

BARIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

BERYLLIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

CADMIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

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CERTIFIED PARAMETERS

SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
CALCIUM	MANGANESE
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
CHROMIUM TOTAL	MERCURY
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 245.1, Rev. 3.0, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	SW-846 7470 A (Aqueous)
SW-846 6010 D (Aqueous)	SW-846 7470 A (Non-Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 7471 B (Non-Aqueous)
COBALT	NICKEL
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
COPPER	POTASSIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
IRON	SELENIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
LEAD	SILVER
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
MAGNESIUM	SODIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

This certification requires maintenance of an acceptable quality assurance program, use of approved methodology, and satisfactory performance on evaluation samples. Laboratories are subject to civil penalties and/or decertification for infractions as set forth in 15A NCAC 2H.0807.

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

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CERTIFIED PARAMETERS

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

THALLIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

VANADIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

ZINC

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

EPA 200.7, Rev. 4.4, 1994 (Non-Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

ORGANIC

TCLP ORGANICS

SW-846 1311 (Aqueous)

SW-846 1311 (Non-Aqueous)

BASE NEUTRAL/ACID, ORGANICS

EPA 625 (Aqueous)

SW-846 8270 D (Aqueous)

SW-846 8270 D (Non-Aqueous)

CHLORINATED ACID HERBICIDES

SW-846 8151 A (Aqueous)

PESTICIDES, ORGANOCHLORINE

SW-846 8081 B (Aqueous)

SW-846 8081 B (Non-Aqueous)

POLYCHLORINATED BIPHENYLS (PCBs)

SW-846 8082 A (Aqueous)

SW-846 8082 A (Non-Aqueous)

PURGEABLE, ORGANICS

EPA 624 (Aqueous)

SM 6200 B-1997 (Aqueous)

SW-846 8260 B (Aqueous)

SW-846 8260 B (Non-Aqueous)