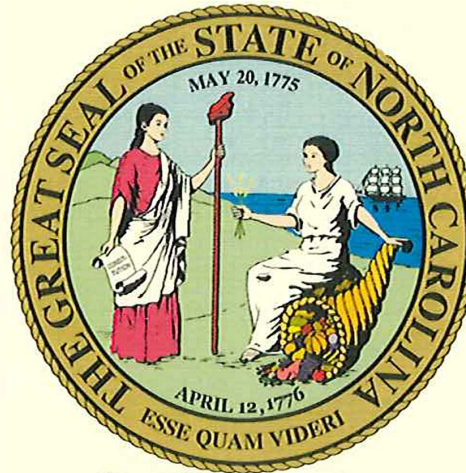


DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

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



2021

Air Water & Soil an Enthalpy Analytical Laboratory

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 12/31/2021

Certificate No. 495

A handwritten signature in black ink that reads "Todd Crawford".

Todd Crawford

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Enthalpy Analytical Laboratory
Address: 1941 Reymet Road
Richmond, VA 23237-

Certificate Number: 495
Effective Date: 1/1/2021
Expiration Date: 12/31/2021
Date of Last Amendment: 7/29/2021

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-2011 (Aqueous)

BACTERIA - COLIFORM FECAL

SM 9221C E-2006 (MPN) (Aqueous)

BOD

SM 5210 B-2011 (Aqueous)

SM 5210 B-2011 (LDO) (Aqueous)

BROMIDE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

SW-846 9056 A (Aqueous)

CBOD

SM 5210 B-2011 (Aqueous)

SM 5210 B-2011 (LDO) (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)

COD

SM 5220 D-2011 (Aqueous)

CONDUCTIVITY

EPA 120.1, Rev. 1982 (Aqueous)

SM 2510 B-2011 (Aqueous)

SW-846 9050 A (Aqueous)

CYANIDE

SM 4500 CN⁻ E-2016 (Total) (Non-Aqueous)

Lachat 10-204-00-1-X, Rev. 2.2, 2005 (SM 4500 CN E -2011 Automated) (Total) (Aqueous)

SW-846 9012 B (Total) (Aqueous)

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

FLASH POINT

SW-846 1010 B (D93-80) (Aqueous)

FLUORIDE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

SW-846 9056 A (Non-Aqueous)

HARDNESS TOTAL - METALS

SM 2340 B-2011 (Ca EPA 200.7, Rev. 4.4, 1994 + Mg EPA 200.7, Rev. 4.4, 1994) (Aqueous)

SM 2340 B-2011 (Ca SM 3120B-2011 + Mg SM 3120B-2011) (Aqueous)

INORGANIC PHENOLS

EPA 420.1, Rev. 1978 (Aqueous)

NITROGEN, AMMONIA

EPA 350.1, Rev. 2.0, 1993 (Aqueous)

NITROGEN, NITRATE

EPA 300.0, Rev. 2.1, 1993 (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)

NITROGEN, NO₃ + NO₂

SM 4500 NO₃⁻ F-2016 (Aqueous)

NITROGEN, TOTAL KJELDAHL

EPA 351.2, Rev. 2.0, 1993 (Aqueous)

OIL & GREASE

EPA 1664 Rev. B (Aqueous)

ORGANIC CARBON, TOTAL

SM 5310 C-2011 (UV Oxidation) (Aqueous)

SW-846 9060 A (UV Oxidation) (Aqueous)

PAINT FILTER LIQUIDS

SW-846 9095B

pH

SW-846 9045 D (Non-Aqueous)

PHOSPHORUS, TOTAL

SM 4500 P E-2011 (Aqueous)

RESIDUE, DISSOLVED 180 C

SM 2540 C-2011 (Aqueous)

RESIDUE, SETTLEABLE

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CERTIFIED PARAMETERS

SM 2540 F-2011 (Aqueous)
RESIDUE, SUSPENDED
SM 2540 D-2011 (Aqueous)
RESIDUE, TOTAL
SM 2540 B-2011 (Aqueous)
SM 2540 G-2015 (Non-Aqueous)
SILICA - METALS
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 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-2011 (Aqueous)
TURBIDITY
SM 2130 B-2011 (Aqueous)
METAL
ALUMINUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
ANTIMONY
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
ARSENIC

SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
BARIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
BERYLLIUM
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
BORON
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
CADMIUM
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)

North Carolina Wastewater/Groundwater Laboratory Certification

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CERTIFIED PARAMETERS

SW-846 6020 B (Aqueous)	EPA 200.9, Rev. 2.2, 1994 (Aqueous)
SW-846 6020 B (Non-Aqueous)	IRON
EPA 200.9, Rev. 2.2, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
CALCIUM	SW-846 6010 D (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Aqueous)	LEAD
SW-846 6010 D (Non-Aqueous)	SW-846 7010 (Aqueous)
CHROMIUM HEXAVALENT	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SM 3500-Cr-B-2011 (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 7196 A (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 7196 A (Non-Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
CHROMIUM TOTAL	SW-846 6020 B (Aqueous)
SW-846 7010 (Aqueous)	SW-846 6020 B (Non-Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.9, Rev. 2.2, 1994 (Aqueous)
SW-846 6010 D (Aqueous)	LITHIUM
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6020 B (Aqueous)
SW-846 6020 B (Aqueous)	MAGNESIUM
SW-846 6020 B (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
COBALT	SW-846 6010 D (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Aqueous)	MANGANESE
SW-846 6010 D (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6020 B (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Non-Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
COPPER	SW-846 6020 B (Aqueous)
SW-846 7010 (Aqueous)	SW-846 6020 B (Non-Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	MERCURY
SW-846 6010 D (Aqueous)	EPA 245.1, Rev. 3.0, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 7470 A (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 7471 B (Non-Aqueous)
SW-846 6020 B (Aqueous)	MOLYBDENUM
SW-846 6020 B (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)

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CERTIFIED PARAMETERS

SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
NICKEL
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
POTASSIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
SELENIUM
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
SILVER
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)

SODIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
STRONTIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
THALLIUM
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
TIN
SW-846 7010 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
EPA 200.9, Rev. 2.2, 1994 (Aqueous)
TITANIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
VANADIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)

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CERTIFIED PARAMETERS

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

ZINC

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

ORGANIC

1,2, DIBROMOETHANE (EDB)

SW-846 8011 (Includes DBCP) (Aqueous)

BASE NEUTRAL/ACID, ORGANICS

EPA 625.1 (Aqueous)

SW-846 8270 E (Aqueous)

SW-846 8270 E (Non-Aqueous)

CHLORINATED ACID HERBICIDES

SW-846 8151 A (Aqueous)

SW-846 8151 A (Non-Aqueous)

EXTRACTABLE PETROLEUM HYDROCARBONS

MADEP, December 2019, Rev. 2.1 (Aqueous)

MADEP, December 2019, Rev. 2.1 (Non-Aqueous)

PESTICIDES, ORGANOCHLORINE

EPA 608.3 (Aqueous)

SW-846 8081 B (Aqueous)

SW-846 8081 B (Non-Aqueous)

POLYCHLORINATED BIPHENYLS (PCBs)

EPA 608.3 (Aqueous)

SW-846 8082 A (Aqueous)

SW-846 8082 A (Non-Aqueous)

SW-846 8082 A (Oil)

PURGEABLE, ORGANICS

EPA 624.1 (Aqueous)

SW-846 8260 D (Aqueous)

SW-846 8260 D (Non-Aqueous)

TOTAL ORGANIC HALIDES

SW-846 9020 B (Aqueous)

TPH DIESEL RANGE, ORGANICS

SW-846 8015 C (Aqueous)

SW-846 8015 C (Non-Aqueous)

TPH GASOLINE RANGE, ORGANICS

SW-846 8015 C (Aqueous)

SW-846 8015 C (Non-Aqueous)