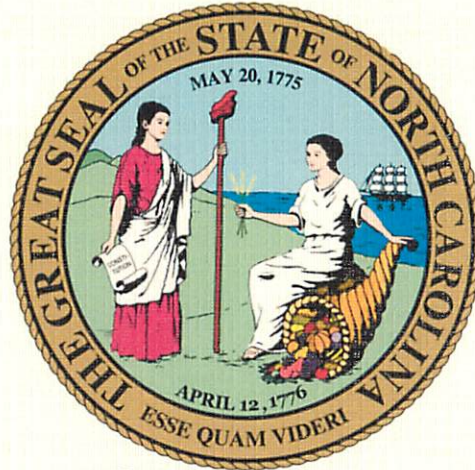


DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

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



2023

Enthalpy Analytical LLC

Is hereby certified to perform environmental analysis as listed on the Laboratory's Certified Parameter List and report monitoring data to DEQ for compliance with NPDES effluent, surface water, groundwater, soil 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 12/31/2023

Certificate No. 495

Todd Crawford

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

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

Certificate Number: 495
 Effective Date: 1/1/2023
 Expiration Date: 12/31/2023
 Date of Last Amendment: 8/15/2023

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

- EPA 310.2, Rev. 1974 (Aqueous)
- SM 2320 B-2011 (Aqueous)

BACTERIA - COLIFORM FECAL

- SM 9221 E-2014 (MPN) (Aqueous)

BOD

- SM 5210 B-2016 (Aqueous)

BROMIDE

- EPA 300.0, Rev. 2.1, 1993 (Aqueous)
- SW-846 9056 A (Aqueous)

CBOD

- SM 5210 B-2016 (Aqueous)

CHLORIDE

- EPA 300.0, Rev. 2.1, 1993 (Aqueous)
- SW-846 9056 A (Aqueous)
- SW-846 9056 A (Non-Aqueous)

COD

- SM 5220 D-2011 (Aqueous)

CONDUCTIVITY

- SM 2510 B-2011 (Aqueous)

CYANIDE

- Lachat 10-204-00-1-X, Rev. 2.2, 2005 (SM 4500 CN E -2016 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)
- SM 4500 NH3 H-2011 (Aqueous)

NITROGEN, NITRATE

- SM 4500 NO3⁻ F-2016 (Aqueous)
- EPA 300.0, Rev. 2.1, 1993 (Aqueous)

SW-846 9056 A (Non-Aqueous)

NITROGEN, NITRITE

- SM 4500-NO2⁻ B-2011 (Automated) (Aqueous)
- EPA 300.0, Rev. 2.1, 1993 (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-2014 (Aqueous)
- SW-846 9060 A (Aqueous)

PAINT FILTER LIQUIDS

SW-846 9095B

pH

SW-846 9045 D (Non-Aqueous)

PHOSPHATE, ORTHO

SM 4500 P E-2011 (Aqueous)

PHOSPHORUS, TOTAL

SM 4500 P E-2011 (Aqueous)

RESIDUE, DISSOLVED 180 C

SM 2540 C-2015 (Aqueous)

RESIDUE, SETTLEABLE

SM 2540 F-2015 (Aqueous)

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CERTIFIED PARAMETERS

RESIDUE, SUSPENDED

SM 2540 D-2015 (Aqueous)

RESIDUE, TOTAL

SM 2540 B-2015 (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)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

SULFIDE

SM 4500 S²⁻ D-2011 (Aqueous)

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)

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

SW-846 6020 B (Aqueous)

ANTIMONY

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)

ARSENIC

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)

BARIIUM

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

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)

BORON

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

CADMIUM

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)

CALCIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

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CERTIFIED PARAMETERS

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

SW-846 6020 B (Aqueous)

CHROMIUM HEXAVALENT

SM 3500 Cr B-2011 (Aqueous)

SW-846 7196 A (Aqueous)

SW-846 7196 A (Non-Aqueous)

EPA 218.6, Rev. 3.3, 1994 (Aqueous)

SW-846 7199 (Aqueous)

SW-846 7199 (Non-Aqueous)

CHROMIUM TOTAL

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)

COBALT

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)

COPPER

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)

IRON

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)

LEAD

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)

LITHIUM

SW-846 6010 D (Aqueous)

SW-846 6020 B (Aqueous)

MAGNESIUM

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)

MANGANESE

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)

MERCURY

EPA 245.1, Rev. 3.0, 1994 (Aqueous)

SW-846 7470 A (Aqueous)

SW-846 7471 B (Non-Aqueous)

SW-846 6020 B (Aqueous)

MOLYBDENUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)

SW-846 6010 D (Aqueous)

SW-846 6010 D (Non-Aqueous)

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CERTIFIED PARAMETERS

EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)

NICKEL

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)

POTASSIUM

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)

SELENIUM

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)

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)

EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

STRONTIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)

THALLIUM

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)

TIN

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)

TITANIUM

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)

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)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)

ZINC

North Carolina Wastewater/Groundwater Laboratory Certification

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CERTIFIED PARAMETERS

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, Dec 2016 (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, Dec 2016 (Aqueous)

SW-846 8081 B (Aqueous)

SW-846 8081 B (Non-Aqueous)

POLYCHLORINATED BIPHENYLS (PCBs)

EPA 608.3, Dec 2016 (Aqueous)

SW-846 8082 A (Aqueous)

SW-846 8082 A (Non-Aqueous)

SW-846 8082 A (Oil)

PURGEABLE, ORGANICS

EPA 624.1, Dec 2016 (Aqueous)

SM 6200 B-2011 (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)

VOLATILE PETROLEUM HYDROCARBONS

MADEP, Feb 2018, Rev. 2.1 (Aqueous)

MADEP, Feb 2018, Rev. 2.1 (Non-Aqueous)