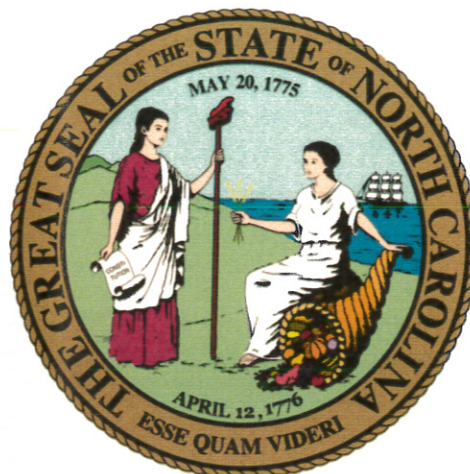


DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

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



2022

Element One Inc.

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 12/31/2022

Certificate No. 604

A handwritten signature in black ink that reads 'Todd Crawford'. The signature is written in a cursive style with a horizontal line underneath it.

Todd Crawford

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Element One Inc.
Address: 6319-D Carolina Beach Rd
Wilmington, NC 28412-

Certificate Number: 604
Effective Date: 1/1/2022
Expiration Date: 12/31/2022
Date of Last Amendment: 9/3/2021

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

ACIDITY

SM 2310 B-2011 (Aqueous)

ALKALINITY

SM 2320 B-2011 (Aqueous)

BACTERIA - COLIFORM FECAL

IDEXX Colilert ®18 (MPN) (Aqueous)

BOD

SM 5210 B-2016 (Aqueous)

CBOD

SM 5210 B-2016 (Aqueous)

CHLORIDE

SM 4500 Cl⁻ B-2011 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

CHLORINE, TOTAL RESIDUAL

Hach 8167 HR (Aqueous)

COD

Hach 8000 (Aqueous)

COLOR, PC

SM 2120 B-2011 (PtCo) (Aqueous)

CONDUCTIVITY

SM 2510 B-2011 (Aqueous)

CYANIDE

SW-846 9014 (Total) (Colorimetric) (Aqueous)

SW-846 9014 (Total) (Colorimetric) (Non-Aqueous)

SM 4500 CN⁻ E-2016 (Total) (Aqueous)

DISSOLVED OXYGEN

SM 4500 O C-2016 (Aqueous)

SM 4500 O G-2016 (Aqueous)

FLUORIDE

SM 4500 F⁻ C-2011 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

HARDNESS TOTAL - METALS

SM 2340 B-2011 (Ca EPA 200.8, Rev. 5.4, 1994 + Mg EPA 200.8, Rev. 5.4, 1994) (Aqueous)

HARDNESS TOTAL - WET CHEM

SM 2340 C-2011 (Aqueous)

IGNITABILITY

SW-846 1030 (Non-Aqueous)

MBAS

SM 5540 C-2011 (Aqueous)

NITROGEN, AMMONIA

SM 4500 NH₃ D-2011 (Aqueous)

NITROGEN, NITRATE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

NITROGEN, NITRITE

SM 4500-NO₂⁻ B-2011 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

NITROGEN, NO₃ + NO₂

SM 4500 NO₃⁻ E-2016 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

NITROGEN, TOTAL KJELDAHL

SM 4500 Norg C-2011 (SM 4500 NH₃ D-2011) (Aqueous)

SM 4500 Norg C-2011 (SM 4500 NH₃ D-2011) (Non-Aqueous)

ORGANIC CARBON, TOTAL

SM 5310 B-2014 (Combustion) (Aqueous)

SW-846 9060 A (Combustion) (Aqueous)

pH

SM 4500 H+B-2011 (Aqueous)

SW-846 9040 C (Aqueous)

SW-846 9045 D (Non-Aqueous)

PHOSPHATE, ORTHO

SM 4500 P E-2011 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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CERTIFIED PARAMETERS

EPA 300.0, Rev. 2.1, 1993 (Non-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)
RESIDUE, SUSPENDED
SM 2540 D-2015 (Aqueous)
RESIDUE, TOTAL
SM 2540 B-2015 (Aqueous)
SILICA - NUTRIENTS
SM 4500 SiO₂ C-2011 (Aqueous)
SULFATE
SM 4500 SO₄²⁻ D-2011 (Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)
SULFIDE
Hach 8131 (Aqueous)
SM 4500 S²⁻ D-2011 (Aqueous)
SW-846 9034 (Aqueous)
TEMPERATURE
SM 2550 B-2010 (Aqueous)
TURBIDITY
SM 2130 B-2011 (Aqueous)
METAL
ALUMINUM
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
ANTIMONY
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
ARSENIC
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
BARIUM
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
BERYLLIUM
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
BORON
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
CADMIUM
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
CALCIUM
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)
SW-846 6020 B (Aqueous)
SW-846 6020 B (Non-Aqueous)
CHROMIUM HEXAVALENT
SM 3500-Cr-B-2011 (Aqueous)

North Carolina Wastewater/Groundwater Laboratory Certification

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CERTIFIED PARAMETERS

EPA 218.6, Rev. 3.3, 1994 (Aqueous)

SW-846 7199 (Aqueous)

CHROMIUM TOTAL

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

COBALT

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

COPPER

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

IRON

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

LEAD

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

MAGNESIUM

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

MANGANESE

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

MERCURY

EPA 245.1, Rev. 3.0, 1994 (Aqueous)

SW-846 7471 B (Non-Aqueous)

MOLYBDENUM

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

NICKEL

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

POTASSIUM

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

SELENIUM

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

SILVER

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

SW-846 6020 B (Aqueous)

SW-846 6020 B (Non-Aqueous)

SODIUM

EPA 200.8, Rev. 5.4, 1994 (Aqueous)

EPA 200.8, Rev. 5.4, 1994 (Non-Aqueous)

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CERTIFIED PARAMETERS

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

STRONTIUM

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

THALLIUM

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

TIN

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

TITANIUM

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

VANADIUM

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

ZINC

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