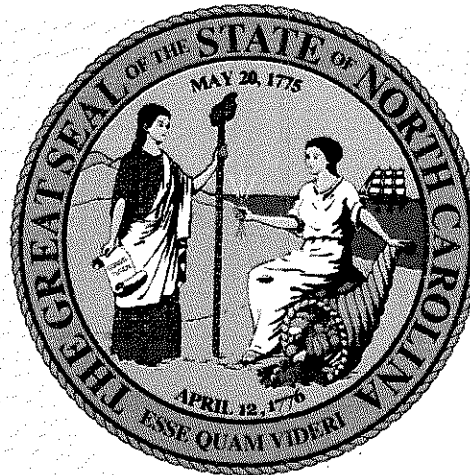


DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

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



2019

ALS Environmental - Jacksonville

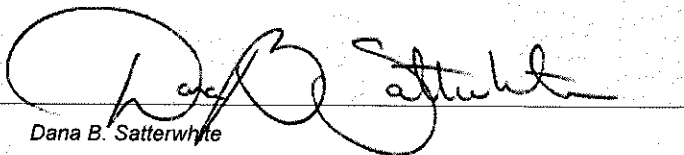
Is hereby certified to perform environmental analysis as listed on Attachment I and report monitoring data to DEQ for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.

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 12/31/2019

Certificate No. 527


Dana B. Satterwhite

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: ALS Environmental - Jacksonville
 Address: 9143 Philips Highway, Suite 200
 Jacksonville, FL 32256-

Certificate Number: 527
 Effective Date: 1/1/2019
 Expiration Date: 12/31/2019
 Date of Last Amendment: 1/28/2019

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)

BOD

SM 5210 B-2011 (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)

CHLOROPHYLL a

SM 10200 H, Rev. 2011 (Spectrophotometric) (Aqueous)

COD

EPA 410.4, Rev. 2.0, 1993 (Aqueous)

SM 5220 D-2011 (Aqueous)

CONDUCTIVITY

EPA 120.1, Rev. 1982 (Aqueous)

CYANIDE

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

SW-846 9012 B (Total) (Aqueous)

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

FLUORIDE

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)

HARDNESS TOTAL

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

LEACHATE PROCEDURE

SW-846 1312 Metals (Aqueous)

SW-846 1312 Metals (Non-Aqueous)

SW-846 1312 Organics (Aqueous)

SW-846 1312 Organics (Non-Aqueous)

SW-846 1311 Metals (Aqueous)

SW-846 1311 Metals (Non-Aqueous)

SW-846 1311 Organics (Aqueous)

SW-846 1311 Organics (Non-Aqueous)

MBAS

SM 5540 C-2011 (Aqueous)

NITROGEN, AMMONIA

EPA 350.1, Rev. 2.0, 1993 (Aqueous)

NITROGEN, NITRATE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

NITROGEN, NITRITE

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

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

NITROGEN, NO3 + NO2

EPA 353.2, Rev. 2.0, 1993 (Aqueous)

SW-846 9056 A (Aqueous)

SW-846 9056 A (Non-Aqueous)

NITROGEN, TOTAL KJELDAHL

EPA 351.2, Rev. 2.0, 1993 (Aqueous)

OIL & GREASE

EPA 1664 Rev. B (Aqueous)

SW-846 9071 B (Non-Aqueous)

pH

SM 4500 H+B-2011 (Aqueous)

SW-846 9045 D (Non-Aqueous)

PHOSPHATE, ORTHO

EPA 365.1, Rev. 2.0, 1993 (Aqueous)

EPA 300.0, Rev. 2.1, 1993 (Aqueous)

PHOSPHORUS, TOTAL

EPA 365.1, Rev. 2.0, 1993 (Aqueous)

RESIDUE, DISSOLVED 180 C

SM 2540 C-2011 (Aqueous)

RESIDUE, SETTLEABLE

SM 2540 F-2011 (Aqueous)

RESIDUE, SUSPENDED

SM 2540 D-2011 (Aqueous)

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

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CERTIFIED PARAMETERS

RESIDUE, TOTAL	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SM 2540 B-2011 (Aqueous)	SW-846 6020 B (Aqueous)
SULFATE	SW-846 6020 B (Non-Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Aqueous)	BERYLLIUM
EPA 300.0, Rev. 2.1, 1993 (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 9056 A (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 9056 A (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
TURBIDITY	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 180.1, Rev. 2.0, 1993 (Aqueous)	SW-846 6020 B (Aqueous)
METAL	SW-846 6020 B (Non-Aqueous)
ALUMINUM	BORON
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	CADMIUM
SW-846 6020 B (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6020 B (Non-Aqueous)	SW-846 6010 D (Aqueous)
ANTIMONY	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)	CALCIUM
SW-846 6020 B (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6020 B (Non-Aqueous)	SW-846 6010 D (Aqueous)
ARSENIC	SW-846 6010 D (Non-Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	CHROMIUM HEXVALENT
SW-846 6010 D (Aqueous)	SM 3500-Cr-B-2011 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 7196 A (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 7196 A (Non-Aqueous)
SW-846 6020 B (Aqueous)	CHROMIUM TOTAL
SW-846 6020 B (Non-Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
BARIUM	SW-846 6010 D (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6020 B (Aqueous)

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

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Jacksonville, FL 32256-

Certificate Number: 527
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CERTIFIED PARAMETERS

SW-846 6020 B (Non-Aqueous)	SW-846 6020 B (Aqueous)
COBALT	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 7470 A (Non-Aqueous)
SW-846 6020 B (Aqueous)	SW-846 7471 B (Non-Aqueous)
SW-846 6020 B (Non-Aqueous)	MOLYBDENUM
COPPER	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Non-Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6020 B (Aqueous)
SW-846 6020 B (Aqueous)	SW-846 6020 B (Non-Aqueous)
SW-846 6020 B (Non-Aqueous)	NICKEL
IRON	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Non-Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
LEAD	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6020 B (Non-Aqueous)
SW-846 6010 D (Aqueous)	POTASSIUM
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)	SELENIUM
MAGNESIUM	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6010 D (Aqueous)
SW-846 6010 D (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6010 D (Non-Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
MANGANESE	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	SW-846 6020 B (Non-Aqueous)
SW-846 6010 D (Aqueous)	SILVER
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)

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

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CERTIFIED PARAMETERS

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 200.8, Rev. 5.4, 1994 (Aqueous)

SW-846 6020 B (Aqueous)

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

SW-846 6020 B (Aqueous)

SW-846 6020 B (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)

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)

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)

TPH DIESEL RANGE, ORGANICS

SW-846 8015 C (Aqueous)

SW-846 8015 C (Non-Aqueous)