Regulatory Impact Analysis

Rule Topic: **Amendment of Wastewater/Groundwater Laboratory Certification Rule**

Rule Citation: 15A NCAC 02H .0804 – Parameters for which Certification may be requested

Commission: Environmental Management Commission (EMC)

DEQ Division: Division of Water Resources (DWR)

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Impact Summary:

State government:	Yes
Local government:	Yes
Federal government:	No
Private entities:	Yes
Substantial Impact:	No

Authority: G.S. 143-215.3(a)(1); G.S. 143-215.3(a)(10)

1. Necessity for Rule Change

The scope of Parameter Methods for which the Wastewater/Groundwater Laboratory Certification Branch (WW/GW LCB) may offer certification is limited to those Parameters listed in Rule 15A NCAC 02H .0804. Amending the Rule as proposed to add Total Nitrogen and Pharmaceutical Pollutants will enable commercial and state laboratories that provide analytical services to request certification for these two Parameters. In addition, it will enable permittees to report certified data in compliance with existing regulatory requirements.

2. Proposed Amendments

15A NCAC 02H .0804 (a)

Amendments are proposed in Paragraph (a) to eliminate unnecessary language. "Field Parameter Methods" are a subset of "Parameter Methods." As such, it is unnecessary and repetitive to specify separately that commercial, municipal, and industrial laboratories must obtain Certification for Field Parameter Methods.

15A NCAC 02H .0804 (b)

The proposed rule amendment adds the Total Nitrogen Parameter to the list of certifiable inorganic Parameters. The North Carolina Department of Agriculture & Consumer Services' Division of Agronomic Services ("Agronomic Division" or "NCDA") has requested that the rule be amended to allow certification for a more direct analytical method for Total Nitrogen. The Rule currently

includes the individual components which comprise Total Nitrogen: Ammonia; Nitrate; Nitrite; and Total Kjeldahl Nitrogen. While it is possible to analyze for each of these individual components and then add those components together, that process does not allow for that total to be reported as certified data. This is because there is no approved method that allows for the addition of multiple methods to determine a Total Nitrogen concentration. To report a Total Nitrogen concentration as certified data, the method employed must be an approved method and provide a singular Total Nitrogen result.

Confined Animal Feed Operations (CAFO) permittees are required to report Total Nitrogen concentrations in animal waste samples to the State. The majority of CAFO permittees send their samples to the state's Agronomic Division laboratory for analysis. The addition of Total Nitrogen as a Parameter will enable CAFO permittees and Commercial laboratories that provide analytical services to them to comply with requirements for regulatory data to be produced by a certified laboratory in accordance with existing permits and requirements in Rule 15A NCAC 02H .0804.

15A NCAC 02H .0804 (d)

The proposed rule amendment adds Pharmaceutical Pollutants to the list of certifiable organic Parameters. The Department of Environmental Quality's Municipal National Pollutant Discharge Elimination System (NPDES), Pretreatment and Collection System Unit ("Municipal Unit") has requested that the rule be amended to allow certification for the Pharmaceutical Pollutants Parameter. Pharmaceutical Pollutants are those listed as such in 40 CFR Part 136.3 Table IF and compounds such as Methyl Cellosolve® (2-Methoxy ethanol), 4-Methyl-2-pentanone (MIBK) and Xylenes.

Some Significant Industrial Users (SIUs) [indirect dischargers] permittees are required to report specific Pharmaceutical Pollutant compounds to the State as part of their Industrial User Pretreatment (IUP) permit requirements. There are currently twenty-eight (28) pharmaceutical manufacturing facilities with Pharmaceutical Pollutant monitoring requirements. The addition of Pharmaceutical Pollutants as a Parameter will enable IUP permittees with this type of monitoring requirement and Commercial laboratories that provide analytical services to them to comply with requirements for regulatory data to be produced by a certified laboratory in accordance with existing permits and requirements in Rule 15A NCAC 02H .0804.

3. Regulatory Baseline

As part of the permanent rulemaking process, G.S. 150B-19.1 requires agencies to quantify to the "greatest extent possible" the costs and benefits to affected parties of a proposed rule. To understand what the costs and benefits of the proposed rule changes would be to regulated parties and the environment, it is necessary to establish a regulatory baseline for comparison. For the purpose of this regulatory impact analysis, the baseline is comprised of the following:

- current version of Rule 15A NCAC 02H .0804 (effective September 1, 2024) which lists Parameters for which laboratories may request state certification, and which requires permitting data to be produced by certified laboratories; and
- FY 2023/2024 State budget (S.L. 2023-134) which increased some fees for certification and established separate fee structures for in-state versus out-of-state commercial laboratories.

4. Impact Analysis

Impact on Regulated Community

CAFO Permittees

In general, CAFO permittees include three types of operations: swine, cattle and poultry with a liquid waste management system. It also includes Digester General Permits for the same types of operations with a farm digester system. The proposed rule does not add additional requirements beyond what is or will be required in a regulated facility's permit; as such, there should be no costs to permittees associated with the proposed rule changes.

CAFO Permittees will benefit, however, in that the proposed amendment will allow facilities to comply with permit requirements that Total Nitrogen monitoring data reported to the State be performed by a certified laboratory. The adoption of this Parameter into state rule will allow the Agronomic Division laboratory and other Commercial laboratories to provide permittees with certified data to avoid issues of noncompliance with their permits related to Total Nitrogen monitoring.

SIU Permittees

SIU [indirect dischargers] permittees are required to report specific Pharmaceutical Pollutant compounds to the State as part of their pre-treatment agreements. The proposed rule does not add additional requirements beyond what is or will be required in a regulated facility's permit; as such, there should be no costs to permittees associated with the proposed rule changes.

SIU Permittees will benefit, however, in that the proposed amendment will allow facilities to comply with permit requirements that Pharmaceutical Pollutant monitoring data reported to the State be performed by a certified laboratory. Commercial laboratories already providing analytical services to those permittees would then be able to provide them with certified data in accordance with existing permits and requirements in Rule 15A NCAC 02H .0804.

Certified Laboratories

The proposed amendments will not require any commercial, municipal, or industrial laboratory to request certification; therefore, the proposed amendments will not necessarily result in any costs to laboratories. However, the amendments will create an opportunity for laboratories to obtain certification for these Parameters.

The proposed amendment for the addition of Total Nitrogen will allow laboratories to produce certified data without using results from multiple methods that are added together to determine a Total Nitrogen value. One of those components, Total Kjeldahl Nitrogen, involves boiling acidified samples, which is extremely hazardous. This dangerous process is not required in the Total Nitrogen method that could be employed if Total Nitrogen was a certifiable Parameter.

The proposed amendment for the addition of Pharmaceutical Pollutants will allow laboratories that are performing these analyses to obtain certification. This would allow permittees to come into compliance with permit conditions and add confidence to future data. The likelihood that Industrial

laboratories that do not already have the equipment, software, and specialized staffing needed to perform Pharmaceutical Pollutants analyses will request certification for that Parameter is extremely low. Commercial laboratories already performing pharmaceutical pollutants analyses will almost certainly request certification because they know most clients need to able to state that the data is certified, and it likely increases customer confidence in the data overall.

There are currently 202 non-Field laboratories that would be eligible to add methods under the Pharmaceutical Pollutants Parameter. Of these 202 laboratories, only 39 laboratories are certified to perform organic analyses (38 commercial; 1 non-commercial). None of them are CAFO permittees or SIU permittees with pharmaceutical pollutant monitoring requirements.

Table 1 contains a summary of the potential likely costs to Commercial laboratories if they choose to pursue certification. These costs would largely be incurred in the first year following adoption of the rule. To become certified, the cost to a laboratory would be $85.00 for each Parameter Method that the laboratory elects to add, assuming they are already a certified laboratory. Fees for becoming certified and/or adding Parameter Methods once already certified are detailed in Rule 15A NCAC 02H .0806 and S.L. 2023-134 (Section 12.14).

Laboratories not currently certified would pay a $300 application fee and at least the minimum certification fee of $2,000 for Municipal and Industrial laboratories, $6,500 for in-state Commercial laboratories and $9,750 for out-of-state Commercial laboratories. Municipal and Industrial laboratories requesting more than 24 Parameters in an initial application would pay a minimum fee of $85 multiplied by the number of Parameters. In-state Commercial laboratories requesting more than 76 Parameters and out-of-state Commercial laboratories requesting more than 114 Parameters in an initial application would pay a minimum fee of $85 multiplied by the number of Parameters.

Table 1: Estimated Initial Certification Costs Attributable to Total Nitrogen and/or Pharmaceutical Pollutants Certification for Commercial Laboratories

	Certified laboratory	**Non-certified laboratory**
	Fees (per laboratory) *as established in Rule 15A NCAC 02H .0806 and S.L. 2023-134 (Section 12.14)*	
Parameter Method Addition Fee	$85 per Parameter method	N/A
Application Fee	N/A	$300
In-State Laboratory Certification Fee	N/A	$6,500, or $85 per Parameter if more than 76 Parameters
Out-of-State Laboratory Certification Fee	N/A	$9,750, or $85 per Parameter if more than 114 Parameters

	Projections	
	Certified laboratory	**Non-certified laboratory**
Projected # of Laboratories that will request certification for Total Nitrogen	To date, only a few Commercial labs, including the Agronomic Division lab, have requested this certification. There are currently three other labs that are analyzing animal waste, and it is possible they would choose to add Total Nitrogen for that purpose.	It is doubtful that any non-certified laboratories will request this certification as it is not a Clean Water Act parameter and the number of clients not already sending their samples to NCDA is thought to be low.
Projected # of Laboratories that will request certification for Pharmaceutical Pollutants	Currently, there are 37 Commercial laboratories that have the instrumentation necessary to perform analyses by EPA approved methods for Pharmaceutical Pollutants.	It is doubtful that any laboratories currently performing this analysis for NC clients as uncertified data are not already certified in NC to perform other analyses for which they already hold certification.
Total projected # of Parameter Methods for which Labs will seek certification	Forty-one (41) (41 labs x 1 Parameter)	None
Total projected initial cost to interested laboratories	**$3,485** (41 Parameter Methods x $85 fee)	**$0**

In addition to the initial certification costs, there would be ongoing annual costs to certified labs that elect to remain certified. The ongoing future costs to certified laboratories would be based on the total number of Parameters for which they are certified. Because it is highly unlikely that Municipal and Industrial laboratories will seek certification for these Parameters, we focused on costs to Commercial laboratories. For in-state Commercial laboratories, the minimum annual fee is $6,500, unless they hold certification for more than 76 Parameters. Then the renewal fee would be $85 multiplied by the total number of certified Parameters. For out-of-state Commercial laboratories, the minimum annual fee is $9,750, unless they hold certification for more than 114 Parameters. Then the renewal fee would be $85 multiplied by the total number of certified Parameters.

Table 2 contains a summary of the annual fees for certified Commercial Laboratories that are attributable to Total Nitrogen certification. Except for laboratories that are certified only for Total Nitrogen, the annual costs attributable to certification for Total Nitrogen would be between $0 and $85.

Table 2: Ongoing/Annual Costs Attributable to Total Nitrogen and/or Pharmaceutical Pollutants Certification for Certified Commercial Laboratories

	Laboratory certified for other Parameters in addition to Total Nitrogen and/or Pharmaceutical Pollutants	**Laboratory certified only for TN and/or Pharmaceutical Pollutants**
Fees (per laboratory) as established in Rule 15A NCAC 02H .0806 and S.L. 2023-134 (Section 12.14)		
Annual Fee (portion of annual fee that is attributable to Total Nitrogen or Pharmaceutical Pollutants certification)	Certified commercial labs <u>are not subject</u> to additional fees if the number of Parameters does not exceed the relevant Parameter threshold: $0 for those certified in-state for 76 or fewer Parameters; $0 for those certified out-of-state for 114 or fewer Parameters. Certified commercial labs <u>are subject</u> to additional fees if the number of Parameters exceeds the relevant threshold: $85 for those already over the minimum Parameter threshold and adding one Parameter; $170 for those already over the minimum Parameter threshold and adding two Parameters.	$6,500 in-state; $9,750 out-of-state
Projections		
Projected # of Laboratories that will request certification for Total Nitrogen	To date, one (1) certified laboratory has expressed interest in adding Total Nitrogen certification. Three (3) other laboratories are performing other analyses on animal waste; it is possible that they will ask to become certified for this parameter. None of these labs are approaching the Parameter threshold.	To date, no labs have expressed interest in being certified in NC for the first time to provide Total Nitrogen testing.
Projected # of Laboratories that will request certification for Pharmaceutical Pollutants	Currently, there are 37 Commercial laboratories that have the instrumentation necessary to perform analyses by EPA approved methods for Pharmaceutical Pollutants. Three (3) of these labs are approaching the Parameter threshold.	To date, no labs have expressed interest in being certified in NC for the first time to provide Pharmaceutical Pollutants testing.
Estimated Total additional annual cost to laboratories	**$255** ($85 Parameter Addition Fee x 3 labs)	**$0**

It is presumed that commercial laboratories that choose to become certified for these Parameters will likely receive benefits that exceed the costs; otherwise, they wouldn't pursue certification. These benefits would be in the form of additional business. The total number of permittees required to monitor for these Parameters in the future shouldn't change as a result of the proposed rule amendments. As such, we do not expect there will be an increase in the total number of samples that laboratories will process, collectively. However, individual laboratories that choose to become certified may gain a competitive edge over laboratories that are not certified for either or both of these Parameters.

The total benefit to individual certified Commercial laboratories will depend, in part, on how many permits require monitoring for Total Nitrogen and Pharmaceutical Pollutants and at what sampling frequency. Currently, there are approximately 2,000 CAFO permits with monitoring requirements for Total Nitrogen requiring sampling on a frequency that depends on their frequency of waste application. It should also be noted that many of the CAFOs have multiple lagoons/waste ponds, so they generate multiple samples per sampling event. There are 28 SIU permits with monitoring requirements for Pharmaceutical Pollutants requiring monitoring on a frequency of at least once per 6 months. It is not possible to project the number of additional clients an individual laboratory would gain or the number of samples they would submit for testing. As such, the benefit to Commercial laboratories could not be quantified, but it is expected to more than offset the nominal costs for certification.

Impact on State Government

DEQ Wastewater/Groundwater Laboratory Certification Branch

The impact on the DEQ Certification Branch staff will be in terms of time spent to review documentation required for adding a new Parameter Method and auditing the procedures during an inspection. For these Parameters, it is estimated that Certification Branch staff would initially spend approximately two (2) hours reviewing the documentation required to grant a laboratory certification at a cost of approximately $43 per hour. This amount was based on the average annual salary plus fringe benefits of the Branch's current Chemist I Auditors. Required documentation would include the laboratory's Standard Operating Procedure (SOP), demonstrated training documentation for affected analysts, Initial Demonstration of Capability (IDOC), Method Detection Limit (MDL) study and acceptable results on a blind Performance Testing (PT) Sample, if widely available. Using a maximum projected number of laboratories who will seek certification (Table 1), the total time cost to the Certification Branch would be about $3,526 in the first year (41 certification requests x $43/hour x 2 hours per certification request). Costs to the Certification Branch could be higher if multiple revisions to the SOP are required during that initial review process.

It is possible (but fairly unlikely for these particular Parameters) that DEQ will receive requests for certification from laboratories that have not previously been certified in North Carolina. The cost to the State in terms of dollars and staff time to certify out-of-state laboratories would be the same as that for in-state laboratories.

Because we expect most interested commercial laboratories to request certification as soon as possible after the Parameter is added to the rule, we expect the bulk of the costs associated with staff time would occur during the first year after adoption of the proposed amendment. This will add to the current workload and stress level of the Certification Branch staff. The Branch has been understaffed for years and does not have the budget to create new positions. The Branch receives no

annual appropriations from the General Assembly. Because of inadequate funding to maintain a sufficient staffing level, the Branch struggles to maintain even a seven-to-ten-year inspection cycle, which is far below the three-year inspection cycle that the Branch, Certified laboratories, and outside stakeholders would like to see.

Ongoing costs associated with staff time are also expected to occur in future years related to auditing the procedures for which a laboratory is certified. It is estimated that with the addition of these Parameters to a laboratory's Certified Parameters Listing, that a single Certification Branch staff member would spend approximately one hour auditing the Parameter Method during an inspection at a cost of approximately $43/hour. Using a maximum projected number of laboratories who will seek certification for one of these Parameters, the total annual time cost to the Certification Branch would be about $1,763 (41 certified labs x $43/hour x 1 hour per certification request).

It should be noted that out-of-state laboratories are required to reimburse the State for actual travel and subsistence costs incurred by laboratory certification staff to perform inspections, provide technical assistance or investigate complaints. Out-of-state laboratories shall also be assessed for expenses for an on-site inspection based on the hourly rate of the laboratory certification staff, rounded to the nearest hour and inclusive of preparation time, travel time, and inspection time, stipulated in rule 15A NCAC 02H .0806 (h).

Benefits to the Certification Branch will be from the collection of additional Parameter Method fees and possibly increased annual renewal fees for the laboratories that are already over the minimum renewal fee amount due to the number of certified Parameters those laboratories have. Benefits will also come from initial application and certification fees plus the annual renewal fees for laboratories that do not currently hold certification in NC. Based on feedback received by certified and non-certified laboratories, we estimate the total initial benefit to the State in terms of fees collected would be approximately $3,485 ($85 each from a projected maximum of 41 certified labs) and an ongoing annual benefit in terms of additional renewal fees collected would be $255 ($85 from three in-state labs). The actual benefits to the State will depend on how many laboratories choose to pursue certification for Total Nitrogen and/or Pharmaceutical Pollutants.

DEQ Permitting Staff

The proposed addition of these Parameters will not require permitting staff to revise their existing procedures. There are permits that already contain requirements related to both Total Nitrogen and Pharmaceutical Pollutants, so permitting staff will not be required to make changes to existing permits. In addition, permitting staff have indicated that the proposed rule changes will not influence whether DEQ adds Total Nitrogen or Pharmaceutical Pollutants monitoring requirements to permits in the future.

Having the Certification Branch in a position to offer certification for these Parameters will ensure that DEQ receives certified data for regulatory purposes. This increases confidence in the quality of the data. While confidence in data is an important benefit to the State, its value could not be quantified. However, it should be noted that if DEQ levies financial penalties based on any future exceedances of standards or discharge limits to permittees based on uncertified data and the data is challenged in court due to not being produced by a certified laboratory, it could cast doubt on the validity of the data and therefore cast doubt on the validity of the penalty.

Having the ability to certify laboratories for this Parameter will also allow DEQ permitting programs to potentially save future staff time on enforcement by reducing the potential for permittees to be

out of compliance with permit conditions due to lack of availability of certified laboratories. The adoption of the proposed rule is necessary to avoid putting permittees at risk of noncompliance. Although we expect most, if not all, permittees to achieve compliance with their monitoring requirements in a timely manner after adoption, it is possible that a small percentage do not comply, resulting in the expenditure of DEQ permitting staff time on compliance and enforcement. We expect this to be a rare occurrence; as such, we expect this potential benefit to be minimal.

NCDA Laboratory

The impact on the NCDA laboratory will be primarily in the form of significant testing materials cost savings and staff time savings. Table 3 details the cost savings related to a reduction in materials and staff time associated with the switch from the current testing method to the new testing method that would be allowed if the Total Nitrogen parameter is added.

Table 3: Cost Comparison of TKN and Total Nitrogen Test Methods at NC Division of Agronomic Services Laboratory (part of NCDA&CS)

	Test Method	
	Total Kjeldahl Nitrogen by Semi-Automated Colorimetry EPA Method 351.2, Rev. 2.0,1993 *(current method)*	Total Nitrogen by Redox and Chemiluminescence Standard Method 4500-N E-2021 *(proposed method)*
Cost per sample *(testing materials)*	$ 3.31	$ 0.76
Average # samples/year	12,209[1]	12,209
Total cost/year *(testing materials)*	$40,470.55[2]	$9,334.00[3]
Staff time per sample	0.087 hr[4]	0.047 hr[4]
Average lab staff compensation*	$38.92 /hr[5]	$38.92/hr[5]
Staff cost/sample *(opportunity cost)*	$3.38	$1.83
Total staff cost/year *(opportunity cost)*	$41,266.42	$22,342.47
Total cost of method/year *(materials + opportunity cost)*	$81,736.97	$ 31,676.47

Notes	Multi-step procedure requiring the use of concentrated acid for digestion and several hazardous chemicals for reaction. Generates significant amounts of hazardous waste.	Single procedure that recovers all forms of nitrogen including total oxidized nitrogen and Kjeldahl nitrogen without the separate steps for acid digestion and chemical reaction. Generates no hazardous waste.

1. 10-year average of TKN tests performed on liquid manure samples by NCDA&CS Agronomic Division. FY2013-2023.

2. TKN Chemical reagents and other items frequently replaced (tubes, tubing, digestion blocks). Does not include the cost of hazardous waste disposal.

3. TN Chemical reagents, gases, and other items frequently replaced (tubes, needles, syringes, fittings)

4. Estimate based on Chemistry Supervisor and Chemist extensive experience in performing both methods.

5. Average salary of four chemistry technician IIs in PWSM lab who are responsible for conducting TKN tests and will be conducting TN tests. Includes benefits per below*. Average: $80,9047.73 Does not include supervisors or receiving staff. **Staff compensation derived from the average annual salary range of Agronomy Division laboratory staff and includes the benefits for insurance, social security, etc. as stipulated in the NC Office of State Personnel Compensation Calculator at http://www.osp.state.nc.us/Reward/benefits/Compensation%20Calculator.htm*

Impact on Local Government

The adoption of the pharmaceutical pollutants parameter could result in indirect, unquantifiable benefits to local governments, particularly publicly owned treatment works (POTWs). The increased confidence in the pharmaceutical pollutants data provided by Significant Industrial Users (SIUs) under pretreatment agreements could enhance the ability of POTWs to make informed decisions regarding treatment and pollution prevention.

Impact on the Environment and the Public

As measured from the baseline condition, the proposed changes will maintain existing environmental protections at an equivalent or higher level, with a possible benefit increase to the environment as potentially more reliable data will be submitted in support of the Department's mission of protecting the environment for benefit of its citizens. Having a robust set of reliable data will better inform decision makers and should result in a better understanding of threats to the environment and human health from Total Nitrogen and Pharmaceutical Pollutant contamination. There may also be other positive benefits to the public as their confidence in the data should be increased by knowing that the data regarding potential surface water contamination was produced by a certified laboratory using approved methodologies. While confidence in data is an important benefit to the State, its value could not be quantified.

Summary

The proposed rule amendments do not add additional requirements beyond what already is or will be required in a regulated facility's permit; as such, there should be no costs to permittees from the

proposed rule amendment. The benefit to the regulated community would be availability of certified data that allows permittees to be compliant with permit requirements. These benefits are expected to be limited to CAFOs and pharmaceutical manufacturer SIUs.

Laboratories that choose to become certified would incur modest costs (initial and ongoing) related to seeking certification from the Certification Branch ($85 for initial certification per lab; $0-$85 per year for additional Parameter). It is presumed that laboratories that choose to become certified will receive benefits in the form of additional business that would exceed these certification costs.

Local governments, particularly POTWs, may realize unquantifiable benefits in the form of increased confidence in the pharmaceutical pollutants data provided by SIUs with which they have pretreatment agreements.

The cost to the DEQ Wastewater/Groundwater Laboratory Certification Branch would be in terms of time spent by staff to review the data packets required to grant certification (about $3,536) plus future ongoing costs for auditing the new Parameter method (about $1,763/year). The benefit would be added revenue to the Certification Branch's completely fee-funded budget (about $255/year).

The Agronomics Division laboratory (within the NCDA&CS) expects to realize significant savings associated with the adoption of the Total Nitrogen parameter. They estimate an annual savings of about $31,137 for testing materials and $18,924 in staff time (opportunity cost savings).

The benefit to the public would be the increased confidence in the State's and Local Government POTWs' ability to accurately determine if a contaminant of concern is present and at what levels. The environment would potentially benefit from a certified dataset that allows locations and levels of contamination to be more confidently identified.

SECTION .0800 – LABORATORY CERTIFICATION

15A NCAC 02H .0804 PARAMETERS FOR WHICH CERTIFICATION MAY BE REQUESTED

(a) Commercial Laboratories shall obtain Certification for Parameter Methods used to generate data that will be reported by the client to the State in accordance with the rules of this Section. Municipal and Industrial Laboratories shall obtain Certification for Parameter Methods used to generate data that will be reported to the State in accordance with the rules of this Section.~~Commercial Laboratories shall obtain Certification for Field Parameter Methods used to generate data that will be reported by the client to the State in accordance with the rules of this Section. Municipal and Industrial laboratories shall obtain Certification for Field Parameter Methods used to generate data that will be reported to the State in accordance with the rules of this Section.~~

(b) Inorganics: Each of the inorganic, physical characteristic, and microbiological analytes listed in this Paragraph shall be considered a certifiable parameter. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. One or more analytical methods or Parameter Methods may be listed with a laboratory's certified Parameters. Certifiable inorganic, physical characteristic, and microbiological Parameters are as follows:

(1) Acidity;
(2) Alkalinity;
(3) Biochemical Oxygen Demand;
(4) Bromide;
(5) Carbonaceous Biochemical Oxygen Demand;
(6) Chemical Oxygen Demand;
(7) Chloride;
(8) Chlorine, Free Available;
(9) Chlorine, Total Residual;
(10) Chlorophyll;
(11) Coliform, Fecal;
(12) Coliform, Total;
(13) Color;
(14) Conductivity/Specific Conductance;
(15) Cyanide;
(16) Dissolved Organic Carbon;
(17) Dissolved Oxygen;
(18) Enterococci;
(19) Escherichia Coliform (E. coli);
(20) Flash Point;
(21) Fluoride;
(22) Hardness, Total;
(23) Ignitability;
(24) Surfactants as Methylene Blue Active Surfactants;
(25) Nitrogen, Ammonia;
(26) Nitrogen, Nitrite plus Nitrate;
(27) Nitrogen, Nitrate;
(28) Nitrogen, Nitrite;
(29) Nitrogen, Total
~~(29)~~(30) Nitrogen, Total Kjeldahl;
~~(30)~~(31) Oil and Grease;
~~(31)~~(32) Orthophosphate;
~~(32)~~(33) Paint Filter Liquids;
~~(33)~~(34) pH;
~~(34)~~(35) Phenols;

~~(35)~~(36) Phosphorus, Total;
~~(36)~~(37) Residue, Settleable;
~~(37)~~(38) Residue, Total;
~~(38)~~(39) Residue, Total Dissolved;
~~(39)~~(40) Residue, Total Suspended;
~~(40)~~(41) Residue, Volatile;
~~(41)~~(42) Salinity;
~~(42)~~(43) Salmonella;
~~(43)~~(44) Silica;
~~(44)~~(45) Sulfate;
~~(45)~~(46) Sulfide;
~~(46)~~(47) Sulfite;
~~(47)~~(48) Temperature;
~~(48)~~(49) Total Organic Carbon;
~~(49)~~(50) Turbidity;
~~(50)~~(51) Vector Attraction Reduction: Option 1;
~~(51)~~(52) Vector Attraction Reduction: Option 2;
~~(52)~~(53) Vector Attraction Reduction: Option 3;
~~(53)~~(54) Vector Attraction Reduction: Option 4;
~~(54)~~(55) Vector Attraction Reduction: Option 5;
~~(55)~~(56) Vector Attraction Reduction: Option 6;
~~(56)~~(57) Vector Attraction Reduction: Option 7;
~~(57)~~(58) Vector Attraction Reduction: Option 8; and
~~(58)~~~~(59)~~ Vector Attraction Reduction: Option 12.

(c) Metals: Each of the metals listed in this Paragraph shall be considered a certifiable Parameter. One or more Parameter Methods shall be listed with a laboratory's certified Parameters. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. Certifiable metals are as follows:

(1) Aluminum;
(2) Antimony;
(3) Arsenic;
(4) Barium;
(5) Beryllium;
(6) Boron;
(7) Cadmium;
(8) Calcium;
(9) Chromium, Hexavalent (Chromium VI);
(10) Chromium, Total;
(11) Chromium, Trivalent (Chromium III);
(12) Cobalt;
(13) Copper;
(14) Hardness, Total (Calcium + Magnesium);
(15) Iron;
(16) Lead;
(17) Lithium;
(18) Magnesium;
(19) Manganese;
(20) Mercury;
(21) Molybdenum;
(22) Nickel;
(23) Potassium;
(24) Phosphorus;

(25) Selenium;
(26) Silica;
(27) Silver;
(28) Sodium;
(29) Strontium;
(30) Thallium;
(31) Tin;
(32) Titanium;
(33) Vanadium; and
(34) Zinc.

(d) Organics: Each of the organic Parameters listed in this Paragraph shall be considered a certifiable Parameter. One or more Parameter Methods shall be listed with a laboratory's certified Parameters. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. Certifiable organic Parameters are as follows:

(1) 1,2-Dibromoethane (EDB); 1,2-Dibromo-3-chloro-propane (DBCP); 1,2,3-Trichloropropane (TCP);
(2) Acetonitrile;
(3) Acrolein, Acrylonitrile;
(4) Adsorbable Organic Halides;
(5) Base/Neutral and Acid Organics;
(6) Benzidines;
(7) Chlorinated Acid Herbicides;
(8) Chlorinated Hydrocarbons;
(9) Chlorinated Phenolics;
(10) Explosives;
(11) Extractable Petroleum Hydrocarbons;
(12) Haloethers;
(13) N-Methylcarbamates;
(14) Nitroaromatics and Isophorone;
(15) Nitrosamines;
(16) Nonhalogenated Volatile Organics;
(17) Organochlorine Pesticides;
(18) Organophosphorus Pesticides;
(19) Per- and polyfluoroalkyl substances (PFAS);
(20) Pharmaceutical Pollutants
~~(20)~~(21) Phenols;
~~(21)~~(22) Phthalate Esters;
~~(22)~~(23) Polychlorinated Biphenyls;
~~(23)~~(24) Polynuclear Aromatic Hydrocarbons;
~~(24)~~(25) Purgeable Aromatics;
~~(25)~~(26) Purgeable Halocarbons;
~~(26)~~(27) Purgeable Organics;
~~(27)~~(28) Total Organic Halides;
~~(28)~~(29) Total Petroleum Hydrocarbons – Diesel Range Organics;
~~(29)~~(30) Total Petroleum Hydrocarbons – Gasoline Range Organics; and
~~(30)~~(31) Volatile Petroleum Hydrocarbons.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); Eff. February 1, 1976; Amended Eff. November 2, 1992; December 1, 1984; Temporary Amendment Eff. October 1, 2001;*

Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.
Amended Eff. September 1, 2024.