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| LABORATORY NAME: |  | | CERT #: |  |
| PRIMARY ANALYST: |  | | DATE: |  |
| NAME OF PERSON COMPLETING CHECKLIST (PRINT): | |  | | |
| SIGNATURE OF PERSON COMPLETING CHECKLIST: | |  | | |

Parameter: **Specific Conductance (Conductivity)**

Methods: **SM 2510 B-2021 & EPA 120.1, Rev. 1982**

Equipment:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Conductivity meter (type):  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  | Conductivity standards (μmhos/cm):  Value: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Exp: \_\_\_\_\_\_\_\_\_  Value: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Exp: \_\_\_\_\_\_\_\_\_  (if needed)  Value: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Exp: \_\_\_\_\_\_\_\_\_ |

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| **PLEASE COMPLETE CHECKLIST IN INDELIBLE INK**  **Please mark Y, N or NA in the column labeled LAB to indicate the common lab practice**  **and in the column labeled SOP to indicate whether it is addressed in the SOP.** | | | | |
|  | **GENERAL** | **LAB** | **SOP** | **EXPLANATION** |
|  | Is the SOP reviewed at least every 2 years? What is the most recent review/revision date of the SOP? [15A NCAC 02H .0805 (g) (4)]  **Date:** |  |  | Quality assurance, quality control, and Standard Operating Procedure documentation shall indicate the effective date of the document and be reviewed every two years and updated if changes in procedures are made.  Verify proper method reference. During review notate deviations from the approved method and SOP. |
|  | Are all review/revision dates and procedural edits tracked and documented? [15A NCAC 02H .0805 (g) (4)] |  |  | Each laboratory shall have a formal process to track and document review dates and any revisions made in all quality assurance, quality control and SOP documents. |
|  | Is there North Carolina data available for review? |  |  | If not, review PT data |
|  | Are the following items documented with each analysis?  [15A NCAC 02H .0805 (g) (2)] |  |  |  |
|  | The method or SOP reference |  |  |  |
|  | Laboratory identification |  |  |  |
|  | Instrument identification |  |  |  |
|  | Sample collector |  |  |  |
|  | Signature or initials of the analyst |  |  |  |
|  | Date of sample collection |  |  |  |
|  | Time of sample collection |  |  |  |
|  | Date of sample analysis |  |  |  |
|  | Sample identification |  |  |  |
|  | Proper units of measure (μmhos/cm) |  |  | μmhos/cm = µS/cm |
|  | Final value to be reported |  |  |  |
|  | Facility ID or Permit number [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  | If different than the Laboratory ID |
|  | Parameter analyzed [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | **PRESERVATION and STORAGE** | **LAB** | **SOP** | **EXPLANATION** |
|  | If not analyzed within 15 minutes, is the sample transported on ice and stored at ≤ 6°C, without freezing? [40 CFR Part 136.3, Table II and footnote 2] |  |  |  |
|  | Is the sample analyzed within 28 days of collection? [40 CFR Part 136.3, Table II and footnote 2] |  |  |  |
|  | **PROCEDURE – Meter Calibration** | **LAB** | **SOP** | **EXPLANATION** |
|  | Is the meter calibrated daily before sample analysis? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  | Use manufacturer instructions, but at least one standard must be used for calibration |
|  | What standard concentration is used for meter calibration?  **Standard:** |  |  |  |
|  | Are the following items documented with each calibration:  [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | True value of the standard used for calibration |  |  |  |
|  | True value of the calibration verification check standard |  |  |  |
|  | Value obtained for the check standard |  |  |  |
|  | True value and value obtained for the post-analysis calibration verification(s), when applicable |  |  |  |
|  | Indication of when the post-analysis calibration verification was performed (e.g., time of analysis, end-of-day analysis, etc.) |  |  |  |
|  | **PROCEDURE – Sample Analysis** | **LAB** | **SOP** | **EXPLANATION** |
|  | Is the conductivity cell thoroughly rinsed with one or more portions of sample before sample measurements? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | Are conductivity samples ever diluted? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  | Conductivity samples must not be diluted |
|  | **QUALITY ASSURANCE** | **LAB** | **SOP** | **EXPLANATION** |
|  | Is a second-source calibration verification check standard analyzed after meter calibration, before sample analysis? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | What is the true value of the check standard?  **Check standard value:** |  |  |  |
|  | Is the acceptance criterion for the calibration verification check standard ±10% of true value? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | Is the evaluation of the check standard clearly documented? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  | This may be accomplished by documenting the check standard acceptance range and measured value or ±10% acceptance and calculated percent recovery. A check box or Y/N (circle one) option may also be added for clarity.  Bottom line: is the benchsheet documentation clear whether the check standard passed? |
|  | What corrective action is taken if the check standard does not meet the acceptance criterion? [15A NCAC 02H .0805 (g) (8)]  **Answer:** |  |  |  |
|  | Is a post-analysis calibration verification check standard analyzed at the end of the run any time the meter is transported by vehicle to another location after calibration? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  | It is also recommended that a mid-day or a mid-batch calibration verification be performed when samples are analyzed over an extended period of time. |
|  | Is the acceptance criterion for the calibration verification check standard ±10% of the true value? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | What corrective action is taken if the post-analysis calibration verification check standard does not meet the acceptance criterion? [15A NCAC 02H .0805 (g) (8)]  **Answer:** |  |  |  |
|  | Is the Automatic Temperature Compensator (ATC) checked initially and every 12 months? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance] |  |  |  |
|  | What temperatures are used for the (ATC) verification? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance]  **Temperatures:** |  |  | One sample or standard must be measured at 25 °C. The other temperature(s) must bracket the range of temperatures of compliance samples throughout the year. This means a third temperature above 25 °C may be necessary. |
|  | What were the values for the standard or sample during the ATC verification?  **Standard/sample values:** |  |  |  |
|  | What is the acceptance criterion for the standard or sample during the ATC verification? [NC WW/GW LCB Approved Procedure for the Analysis of Specific Conductance]  **Acceptance criterion:** |  |  | As the temperature increases or decreases, the value of the conductivity standard or sample must be within 10% of the true value of the standard or 10% of the value of the sample at 25°C. |
|  | Are results qualified to indicate quality control failures or sample anomalies when reporting results? [15A NCAC  02H .0805 (e) (5)] |  |  | Reported data associated with Quality Control failures, improper sample collection, holding time exceedances, or  improper preservation shall be qualified as such. |

Additional Comments:

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