

NC DEQ/DWR WASTEWATER/GROUNDWATER LABORATORY CERTIFICATION BRANCH

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

Parameter: **Temperature**
 Method: **SM 2550 B-2010**

Equipment:

Temperature-sensing device:				
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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	L A B	S O P	EXPLANATION
1	Is the SOP reviewed at least every 2 years? What is the most recent review/revision date of the SOP? [Non-field: 15A NCAC 2H .0805 (a) (7)] [Field: 15A NCAC 2H .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.
2	Are all review/revision dates and procedural edits tracked and documented? [Non-field: 15A NCAC 2H .0805 (a) (7)] [Field: 15A NCAC 2H .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.
3	Has the laboratory developed and implemented a documented training program? [Non-field: 15A NCAC 2H .0805 (a) (7) (P)] [Field: 15A NCAC 2H .0805 (g) (5)]			Each laboratory shall develop and implement a documented training program that includes documentation that: (i) [or (A)] that staff have the education, training, experience, or demonstrated skills needed to generate quality control results within method-specified limits and that meet the requirements of these Rules; (ii) [or (B)] that staff have read the laboratory quality assurance manual or applicable Standard Operating Procedures; (iii) [or (C)] that staff have obtained acceptable results on Proficiency Testing samples pursuant to Rule .0803(1) of this Section or other demonstrations of proficiency (e.g., side-by-side comparison with a trained analyst, acceptable results on a single-blind performance evaluation sample, an initial demonstration of capability study prescribed by the reference method).
4	Is there North Carolina data available for review?			
5	Are ALL analytical records, including original observations maintained for 5 years? [Non-field: 15A NCAC 2H .0805 (a) (7) (E)] [Field: 15A NCAC 2H .0805 (g) (1)]			
6	Are all manual data and log entries written in indelible ink? [Non-field: 15A NCAC 2H .0805 (a) (7) (E)] [Field: 15A NCAC 2H .0805 (g) (1)]			
7	Are error corrections performed properly? [Non-field: 15A NCAC 2H .0805 (a) (7) (E)] [Field: 15A NCAC 2H .0805 (g) (1)]			All documentation errors shall be corrected by drawing a single line through the error so that the original entry remains legible. Entries shall not be obliterated by erasures or markings.

				Wite-Out®, correction tape, or similar products designed to obliterate documentation shall not to be used; instead, the correction shall be written adjacent to the error. The correction shall be initialed by the responsible individual and the date of change documented.
8	Are the following items documented with each analysis? [Non-field:15A NCAC 2H .0805 (a) (7) (F)] [Field:15A NCAC 2H .0805 (g) (2)]			
	The method or SOP reference			
	Laboratory identification			
	Instrument identification			
	Sample collector			
	Signature or initials of the analyst			
	Sample identification			
	Date of sample collection			One date and time may be documented for sample collection and analysis if there is documentation showing that the analysis is performed <i>in situ</i> , or immediately on the sample site. When this "one time" option is used, state that the documentation is both collection and analysis time.
	Time of sample collection			
	Date of sample analysis			
	Time of sample analysis			
	Proper units of measure			
	Final value to be reported			Unless greater precision is required by the permit or data receiving agency, it is recommended that all temperature reported for compliance monitoring, be reported in <u>whole numbers</u> as recommended by the DWR "Precision in Discharge Monitoring Reports" document.
	Facility name or permit number [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			
	Parameter analyzed [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			
	PRESERVATION and STORAGE	L A B	S O P	EXPLANATION
9	Is the sample analyzed within 15 minutes of collection? [40 CFR Part 136.3, Table II and footnote 2]			
	PROCEDURE – SAMPLE ANALYSIS	L A B	S O P	EXPLANATION
10	Is the temperature-measuring device immersed in the sample to the proper depth as specified by the manufacturer? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			
	QUALITY ASSURANCE	L A B	S O P	EXPLANATION
11	Does the compliance temperature-measuring device have a valid (i.e., not expired) NIST certificate? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			
12	If the compliance temperature-measuring device does not have a valid NIST certificate, is the device checked against a Reference Temperature-Measuring Device initially before use? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			This may be performed by a contract laboratory. Maintain comparison data and documentation of NIST traceable temperature-measuring device information listed below.
13	Are all compliance temperature-measuring devices checked against a Reference Temperature-Measuring Device every 12 months after first use or after certificate expiration, whichever comes first? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			
14	Is the Reference Temperature-Measuring Device, within its expiration date, only used to verify the calibration of other devices and have a stated accuracy of at least ± 0.5 °C? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]			

15	<p>Is the serial number, stated accuracy and expiration date of the Reference Temperature-Measuring Device used in the comparison documented? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p> <p>Reference Temperature-Measuring Device</p> <p>Serial #: _____</p> <p>Stated accuracy: _____</p> <p>Expiration date: _____</p>									
16	<p>Is the compliance temperature-measuring device checked at two temperatures that bracket the range of compliance samples? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p>									
17	<p>Is the date of the verification, the serial number of the compliance temperature measuring device and all four temperatures documented? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p> <p>Date: _____</p> <p>Serial Number: _____</p> <p>Temperatures:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">Compliance device</td> <td style="width: 50%; text-align: center;">Reference device</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>	Compliance device	Reference device	_____	_____	_____	_____			
Compliance device	Reference device									
_____	_____									
_____	_____									
18	<p>Do the readings from both devices agree within 0.5°C? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p>									
19	<p>If the compliance temperature-measuring device does not agree within ±0.5°C, is the device taken out of use for compliance temperature monitoring? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p>			<p>If the device reading differs by more than 0.5°C from the Reference Temperature-Measuring Device, it may not be used. No temperature correction factors are allowed for this parameter.</p>						
20	<p>Is the verification documentation kept on file for 5 years? [NC WW/GW LCB Approved Procedure for the Analysis of Temperature]</p>									

Additional Comments:

Inspector: _____ Date: _____