

 ENVIRONMENTAL STANDARDS®	ON-SITE LABORATORY AUDIT
Audit Sponsor	Georgia-Pacific LLC
Laboratory Name	Crossett Mill
Laboratory Street Address	100 Mill Supply Road
Laboratory City State Zip	Crossett, AR, 71635
Audit Start Date	8/31/21
Audit End Date	8/31/21
Audit Team Member	Gary P. Yakub
Scope of Audit	Quality Management System
	Data Reduction and Reporting
	Sample Management
	Biochemical Oxygen Demand by Standard Method 5210
	pH by Standard Method 4500H+
	Total Suspended Solids by Standard Method 2540D
Standard	Analytical Methods
Standard	Laboratory Quality Documents: QAM and SOPs
Date Pre-Audit Requested	7/27/21
Date Pre-Audit Received	8/21/21
Date Draft Report Issued	9/17/21
Date Laboratory Requested to Reply	NA
Date Laboratory Reply Received	NA
Date Report Finalized	
Date Response Requested	NA
Date Response Received	NA
Date Response Adequacy Assessed	NA

SUMMARY OF FINDINGS

Number of Administrative Findings	0
Number of Method Requirement Findings	5
Number of Quality System Requirement Findings	4

This audit report has been prepared by Environmental Standards, Inc. for Georgia-Pacific LLC and Crossett Mill. This file has been presented for factual review and should not be utilized for any other purpose.

GROUPING	AUDIT AREA	FINDING NUMBER	DESCRIPTOR	FINDING	CITATION	RECOMMENDATION
				<i>(To be completed by Environmental Standards)</i>		
SAMPLE MANAGEMENT	BOTTLEWARE AND PRESERVATION			No findings were observed in this area.		
SAMPLE MANAGEMENT	SAMPLE RECEIVING AND STORAGE	1	QUALITY_SYSTEM_REQUIREMENT	The Analyst did not document the temperature of the refrigerator used to hold sub-contract samples to verify acceptable sample storage conditions, including storage of samples at < 6°C where required.	40 CFR Part 136.3 Table II	Document a daily storage temperature (each day in use). Samples collected and shipped to subcontract laboratories must meet storage requirements as noted in the Methods and US EPA regulations.
GENERAL CHEMISTRY	BIOCHEMICAL OXYGEN DEMAND BY STANDARD METHOD 5210	2	METHOD_REQUIREMENT	The Analyst only set up one BOD dilution water blank bottle with each set.	SM 5210B-2016 Section 6c	Set up a minimum of two blank bottles as directed in the reference method.
GENERAL CHEMISTRY	BIOCHEMICAL OXYGEN DEMAND BY STANDARD METHOD 5210	3	METHOD_REQUIREMENT	The Analyst adjusted the sample pH to 7, even if the initial pH value was within the range as noted in the method.	SM 5210B-2016 Section 4b1	Adjust the pH of the samples only if necessary (i.e., pH is outside of the 6 to 8 range).
GENERAL CHEMISTRY	BIOCHEMICAL OXYGEN DEMAND BY STANDARD METHOD 5210	4	METHOD_REQUIREMENT	The Analyst did not seed the effluent compliance sample; however, evidence suggested potential elevated pH in the pond upstream of the effluent due to algae blooms.	SM 5210B-2016 Section 4b1	Investigate if seeding the effluent samples is necessary based on the nature of the microbial population in the effluent.
GENERAL CHEMISTRY	BIOCHEMICAL OXYGEN DEMAND BY STANDARD METHOD 5210	5	METHOD_REQUIREMENT	The Auditor could not verify the correct concentration of mineral solutions was added to the BOD dilution water due to an unknown total volume of the container.	SM 5210B-2016 Section 5a	Confirm the actual volume of the BOD dilution water containers so that the correct amount of mineral solutions can be determined.
GENERAL CHEMISTRY	BIOCHEMICAL OXYGEN DEMAND BY STANDARD METHOD 5210		COMMENT	Elevated initial DO readings indicated potential supersaturation of oxygen in the dilution water. This was confirmed by shaking a sample of dilution water in a container and noting a decrease in the DO level. The supersaturation did not appear to cause issues with the dilution water blanks.		
GENERAL CHEMISTRY	PH BY STANDARD METHOD 4500H+	6	QUALITY_SYSTEM_REQUIREMENT	The SOP did not note acceptance criteria for either the calibration check buffer or the calibration slope.	SM 4500 H+ B Section 4a	Document the acceptance criteria for both checks to ensure correct assessment of the pH calibrations.
GENERAL CHEMISTRY	PH BY STANDARD METHOD 4500H+	7	QUALITY_SYSTEM_REQUIREMENT	The calibration buffers were observed stored out on the bench in uncovered beakers for up to a week.	SM 4500 H+ B Section 3a	Store the buffers in a closed container to prevent evaporation and changes to the certified values.
GENERAL CHEMISTRY	PH BY STANDARD METHOD 4500H+		COMMENT	Inconsistent stirring of buffers and samples was noted for the pH calibrations and sample analysis. Stir both standards and samples in a consistent manner so that inconsistent sample manipulation does not affect the calibration or sample results.		
GENERAL CHEMISTRY	TOTAL SUSPENDED SOLIDS BY STANDARD METHOD 2540D			No findings were observed in this area, other than those specific notations made in each section of this report.		
DATA REDUCTION AND REPORTING	DATA REVIEW AND REPORTING			No findings were observed in this area, other than those specific notations made in each section of this report.		
QUALITY MANAGEMENT SYSTEM	GENERAL LABORATORY OPERATIONS	8	METHOD_REQUIREMENT	The Analyst described sieving the 24-hour composite sample through a 150-µm sieve prior to analyzing for BOD and TSS.	SM 5210B - 2016 SM 2540D - 2015	Perform the analysis according to the procedures specified in those methods. The use of the sieve must be discontinued.
QUALITY MANAGEMENT SYSTEM	GENERAL LABORATORY OPERATIONS		SUGGESTION	Provide basic laboratory skills training for the Analysts. Some procedures and actions were observed that would be considered inappropriate (i.e., banging the pH probe on a paper towel on the bench to dry it, pipetting a measured volume by pouring the measured sample out of the top of the pipette as opposed to letting it drain out the calibrated tip, using pencil to document analytical work).		

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QUALITY MANAGEMENT SYSTEM	GENERAL SUPPORT EQUIPMENT, INSTRUMENTATION, AND CALIBRATION		SUGGESTION	The Analyst checked the balance calibration at 20 g; however, the filter weights were observed to be around 0.08-0.10 g. The Auditor suggested checking the balance calibration closer to the range of use (i.e., check balance at 0.1 g). Acceptance criteria should be developed for this check.		
QUALITY MANAGEMENT SYSTEM	LOGBOOKS AND NOTEBOOKS			No findings were observed in this area, other than those specific notations made in each section of this report.		
QUALITY MANAGEMENT SYSTEM	METHOD DETECTION LIMITS AND VERIFICATIONS			No findings were observed in this area.		
QUALITY MANAGEMENT SYSTEM	PERSONNEL TRAINING AND RECORDS			No findings were observed in this area, other than those specific notations made in each section of this report.		
QUALITY MANAGEMENT SYSTEM	QUALITY ASSURANCE DOCUMENTATION			A review of the BOD SOP (Rev 8/16/21) noted a sample pH adjustment range with an incorrect upper value of 8.5. The upper value per the method was 8.0 pH units.	SM 52108-2016 Section 4b1	Document the correct range in the SOP.
QUALITY MANAGEMENT SYSTEM	STANDARD OPERATING PROCEDURES	9	QUALITY_SYSTEM_REQUIR EMENT			