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From: Lessie Redican (adpce.ad) <lessie.Redican@arkansas.gov>

Sent: Monday, July 1, 2024 8:21 AM

To: Mcchristian, Donna <Donna.McChristian@jacobs.com>

Cc: Stacie Wassell (adpce.ad) <Stacie.Wassell@arkansas.gov>; Richard Healey (adpce.ad) <Richard.Healey@arkansas.gov>; Joe Martin (adpce.ad) <Joe.M.Martin@arkansas.gov>

Subject: [EXTERNAL] Lab Data Audit Paul R.Noland WWTP

Good morning, Donna!

Attached you will find the results of your laboratory data audit for AR002010 Paul R. Noland 1/WJTP.

Your records and record keeping efforts are excellent! Your data is easy to follow and understand.

There are 11 findings and 9 recommendations in my report. Please respond to the findings by July 31, 2024 with a correction plan and estimated completion date for each finding.

If you have any questions, please let me know.

Lessie Redican | Laboratory Branch Manager

Division of Environmental Quality | Office of Water Quality
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ARKANSAS
ENERGY & ENVIRONMENT



**DIVISION OF
ENVIRONMENTAL QUALITY**

Sarah Huckabee Sanders
GOVERNOR

Shane E. Khoury
SECRETARY

July 1, 2024

Donna McChristian, Laboratory Director
Paul R. Noland WWTP
1400 North Fox Hunter Rd
Fayetteville, AR 72701

RE: Paul R. Noland WWTP Laboratory Data Audit
AFIN: 72-00102 Permit No.: AR0020010

Dear Ms. McChristian,

Division of Environmental Quality (DEQ) performed a laboratory data audit of the Paul R. Noland WWTP, 1400 North Fox Hunter Rd, Fayetteville, Arkansas in accordance with the provisions of the Federal Clean Water Act, the Arkansas Water and Air Pollution Control Act, and the rules promulgated thereunder. The Laboratory Audit Report details eleven (11) findings that need to be addressed and nine (9) recommendations for your consideration to help the laboratory function more efficiently and improve recordkeeping.

Please provide a written response to each finding that includes, but is not limited to,

- The corrective action to be taken,
- The estimated time to complete the corrective action,
- And a demonstration, if necessary, that the corrective action was sufficient to resolve the deficiency.

The corrective action response is due by July 31, 2024, and may be emailed to WaterLab@adeq.state.ar.us.

If you have any questions, please contact Lessie Redican at 501-682-0937 or by email at lessie.redican@adeq.state.ar.us or Stacie Wassell by email at Stacie.wassell@adeq.state.ar.us.

Sincerely,

A handwritten signature in blue ink that reads "Lessie Redican".

Lessie Redican,
Laboratory Branch Manager, Office of Water Quality
Division of Environmental Quality

Cc: Richard Healy, Enforcement Branch Manager, Office of Water Quality
Jason Bolenbaugh, Compliance Manager, Office of Water Quality
Stacie Wassell, Associate Director, Office of Water Quality



LABORATORY DATA AUDIT REPORT

Paul R. Noland WWTP
Permit Number: AR0020010

Introduction

The Arkansas Department of Energy and Environment Division of Environmental Quality (DEQ), Office of Water Quality Laboratory conducted a data audit of the Paul R. Noland WWTP in-house laboratory (Permittee) pursuant to the Part III, Section B, Condition 1 and Part III, Section C, Condition 3 of Permit AR0000591 and 40 C. F. R. § 136. The purpose of the audit was to verify that Permittee is complying with Part III, Section B, Condition 1 and Part III, Section C, Condition 3 of Permit AR0022365 and 40 C. F. R. § 136, and correctly implementing approved analytical methods, including acceptable quality control, and maintaining adequate laboratory documentation.

DEQ performed a data document audit and reviewed documents submitted by Permittee. The findings and recommendations are set forth below.

This Laboratory Audit Report reports only on the documents submitted to DEQ for review. This report may not include all deficiencies in the provided documents. No representation is made as to any documents not specifically commented upon.

Summary of Findings and Recommendations

	Findings	Recommendations
General Recordkeeping	1	1
Dissolved Oxygen	1	2
Ammonia	1	0
CBOD	0	1
pH	1	1
Fecal Coliform	2	2
TSS and TDS	2	1
T. Phosphorus	1	1
Calibration Records	1	0
DMRQA	1	0
TOTAL	11	9



I. General Recordkeeping

During the laboratory data audit, DEQ noted one (1) finding and one (1) recommendation. The finding was common to most of the analyses, but only included in General Recordkeeping to avoid repetitive findings.

#		Description	Correction Date	Completion Date
1.	Finding	Standard Methods QAQC for Method Blanks is that the Method Blank be less than half the Reporting Limit, and that a Minimum Reporting Limit standard be analyzed with each batch of 20 or less samples. The recovery of the MRL standard is +/- 50%. Revise any affected SOPs to reflect these requirements.		
	Response	<u>Agree.</u> Ammonia blanks were recently recorded higher than the Reporting Limit of 0.02 mg/L. Troubleshooting measures were initiated and blanks have since returned to < half RL. The source of contamination is unknown. If a high blank incident recurs, data will be disqualified and reanalyzed or compliance samples will be sent for outside analysis until resolved. A standard 0.02 was added as the MRL standard, recovery must be 0.015-0.025.	July 29, 2024	
2.	Recommendation	With MUR 2023 in effect June 17, 2024, it is time to update the Method References to meet the changes in 40 CFR 136.		
	Response	<u>Agree.</u> Changes to SOP's will be made to reflect the newly approved methods as listed in 40 CFR 136 with the MUR 2023 update.	January 1, 2025	

II. Analysis: Dissolved Oxygen (DO)

During the laboratory data audit, DEQ noted one (1) finding and two (2) recommendations.

#		Description	Correction Date	Completion Date
3.	Finding	QC elements, #3: A Proficiency Test needs to be added annually for DO.		
	Response	<u>Agree.</u> NSI Lab Solutions PEI-192 DO wastewater proficiency sample has been added annually. First Dissolved Oxygen proficiency sample was received July 22, 2024 and tested July 29, 2024.	July 16, 2024	
4.	Recommendation	Procedure: Is there a warmup time for the meter before calibration? When the probe has been out of use for an extended period, define "an extended period".		



	Response	<u>Agree</u> . A warm-up period is in use daily with the morning Maintenance & Calibration routine but was not written into the DO SOP. The warmup time of 10-30 minutes listed in the equipment manual for the probe to equilibrate to room temperature has been added to the written SOP. The reference to “an extended period” has been removed from the SOP as it no longer appears in the User Manuals for the LDO101 Probe or HQ2100 Meter.	July 10, 2024	
5.	Recommendation	Maintenance: how do you keep up with when to replace the probe cap? Is there an indication that it might need to be done sooner than 365 days?		
	Response	<u>Reevaluate</u> . Documentation is attached. The DO meter displays a message when 30 days of probe service life remain. Manufacturer states, “ <i>Replace the LDO sensor cap after 365 days, or more frequently if the cap becomes damaged or dirty.</i> ” Daily procedure includes a visual check for damage or fouling of sensor cap. If the probe provides erratic readings or if calibration is unsuccessful, the sensor cap might be replaced prior to the 365 interval and these events are recorded in the Maintenance Log, which was not provided with the requested document package.	July 8, 2024	

III. Analysis: Ammonia

During the laboratory data audit, DEQ noted one (1) finding.

#		Description	Correction Date	Completion Date
6.	Finding	No indication of distillation before analysis as required by 40 CFR 136, unless there is a comparability study on file to show distillation is not needed for each sample type.		
	Response	<u>Reevaluate</u> . The Fayetteville facilities utilize biological nutrient removal to produce good-quality nitrified wastewater effluent. SM 4500-NH3 1. Selection of Method: “ <i>The two major factors that influence selection of the method to determine ammonia are concentration and presence of interferences. In general, direct manual determination of low concentrations of ammonia is confined to drinking waters, clean surface or groundwater, and good-quality nitrified wastewater effluent. In other instances, and where interferences are present or greater precision is necessary, a preliminary distillation step (4500- NH3.B) is required.</i> ”	NA	



IV. Analysis: Carbonaceous Biochemical Demand (CBOD₅)

During the laboratory data audit, DEQ noted no findings and one (1) recommendation.

		Description	Correction Date	Completion Date
7.	Recommendation	Format SOP such that bullet points are not used. This will make each chemical and reagent easier to identify. Add specifications to the chemicals such as ACS grade or ultrapure. Vendor part numbers make reordering easier but be sure to include “or equivalent” to avoid having to revise the SOP in case of a vendor change.		
	Response	<u>Agree</u> . Bullet points will be replaced with underlined/bold reagent lists for easier identification of reagents. “Or equivalent” will be added to applicable reagents and/or part numbers will be removed. Chemical specifications will be added where applicable but minimal reagent preparation takes place in the lab as all chemicals are ordered pre-made.	July 23, 2024	

V. Analysis: pH

During the laboratory data audit, DEQ noted one (1) finding and one (1) recommendation.

#		Description	Correction Date	Completion Date
8.	Finding	Lacks Lot numbers and/or expiration dates for calibration buffers and QC check buffer.		
	Response	<u>Reevaluate</u> . Documentation is attached. Lot number and expiration dates are recorded daily for the QC check buffer and upon receipt for calibration buffers.	NA	
9.	Recommendation	Establish a maintenance logbook for pH probe cleaning and maintenance.		
	Response	<u>Reevaluate</u> . Documentation is attached. A single Equipment Maintenance Logbook is in use for all maintenance and cleaning tasks, battery exchanges, and other general observations.	NA	



VI. Analysis: Fecal Coliform Bacteria

During the laboratory data audit, DEQ noted two (2) findings and two (2) recommendations.

#		Description	Correction Date	Completion Date
10.	Finding	Remove the example calculations for TSS and VSS from section 8. Include how to read the IDEXX MPN table.		
	Response	<u>Agree</u> . TSS/VSS formula was removed from IDEXX FCB SOP and the MPN table was added.	July 15, 2024	
11.	Finding	A method blank and a known quantity laboratory control should be analyzed with each batch.		
	Response	<u>Reevaluate</u> . Method blank and duplicate is analyzed with each weekly batch of ≤ 10 samples and a known quantity laboratory control is analyzed twice annually with the Performance Evaluation samples. The +/- check set is analyzed with each batch of new substrate reagent.	NA	
12.	Recommendation	Add a copy of the Quanti-Tray 2000 MPN table as an attachment to the SOP.		
	Response	<u>Agree</u> . IDEXX FCB SOP now includes the Quanti-Tray 2000 MPN table.	July 8, 2024	
13.	Recommendation	Modify Section 9, 6b to reflect that change in QC requirements.		
	Response	<u>Reevaluate</u> . SOP Section 9, 6b Lab Control Standard reflects the routine testing of a known lab control that is analyzed twice annually with samples provided by an EPA-accredited QA sample vendor.	July 8, 2024	



VII. Analysis: Total Suspended Solids (TSS) and Total Dissolved Solids (TDS)

During the laboratory data audit, DEQ noted two (2) findings and one (1) recommendation.

#		Description	Correction Date	Completion Date
14.	Finding	No indication of daily calibration checks of analytical balance before use.		
	Response	<u>Reevaluate</u> . Analytical balance is checked daily with two certified weights prior to TSS or TDS analysis. The dates that show no calibration check are the days the balance was not in use.	NA	
15.	Finding	Contradiction in QC for TSS and TDS, check Quality Control sections vs. Reagents.		
	Response	<u>Agree</u> . TDS SOP change was made to reflect the use of NSI Lab Solutions catalog no. QCI-136 as the LCS. <u>Reevaluate</u> . No change made to TSS SOP Reagent QC sample type as the Reagents and QC both correctly reflect the use of Sigma Cell as the LCS.	July 10, 2024	
16.	Recommendation	Add pore size to glass fiber filter description to assure the filters and data remain consistent.		
	Response	<u>Agree</u> . Pore size was added to the glass fiber filter description: pore size 1.5um retention for filter 934-AH, or equivalent.	July 10, 2024	

VIII. Analysis: Total Phosphorus

During the laboratory data audit, DEQ noted one (1) finding and one (1) recommendation.

#		Description	Correction Date	Completion Date
17.	Finding	SOP lists a reagent required as an Internal Standard that is a DMR/WP known. Should this be a LCS standard? Also, the Quality Control section (10) says that Internal Standards are not applicable to the method.		
	Response	<u>Agree</u> . SOP was changed to reflect the terminology from Internal Standard to LCS and QC section to list LCS applicable to the method.	July 11, 2024	
18.	Recommendation	As in the CBOD SOP, a format change to eliminate bullet points should be considered.		
	Response	<u>Agree</u> . Bullet points will be replaced with underlined/bold reagent lists for easier identification of reagents.	January 1, 2025	



IX. Calibration Records

During the laboratory data audit, DEQ noted one (1) finding.

#		Description	Correction Date	Completion Date
19.	Finding	Accuracy Certificates do not indicate annual re-certification of thermometers and weights against NIST traceable units.		
	Response	<u>Agree.</u> Thermometers were calibrated annually against a certified thermometer which was re-certified based on the due date provided by the NIST provider at the time of certification. This recertification procedure will be changed to annual, and the expiration recommendation from the NIST provider will not be used. <u>Reevaluate.</u> Weights are certified or replaced annually during balance calibration by Aldinger.	July 31, 2024	

X. Proficiency / DMRQA Records

During the laboratory data audit, DEQ noted one (1) finding.

#		Description	Correction Date	Completion Date
20.	Finding	Need to add a proficiency test for Dissolved Oxygen.		
	Response	<u>Agree.</u> NSI Lab Solutions PEI-192 DO wastewater proficiency sample has been added annually. First Dissolved Oxygen proficiency sample was received July 22, 2024 and tested July 29, 2024.	July 16, 2024	

- XI. Training Logs No findings or Recommendations.
- XII. Bench Sheets and Data No findings or Recommendations.
- XIII. QA Records No findings or Recommendations.
- XIV. Sample collection No findings or Recommendations.
- XV. Flow Measurements No findings or Recommendations.