
October 26, 2023

Mrs. Brenda Dougan
Northeast Nodaway R-V School District
126 South High School Avenue
Ravenwood, MO 64479

RE: Drinking Water Sampling – Post Remediation Sampling

Northeast Nodaway R-V School District
126 South High School Avenue, Ravenwood, MO
Project Number: 923320

Mrs. Dougan,

OCCU-TEC, Inc. (OCCU-TEC) is pleased to present the following report for post-remediation drinking water sampling completed on recently replaced sources at the Northeast Nodaway School District (NENSD) in Ravenwood, Missouri. The sampling was requested and approved by Mrs. Brenda Dougan of NENSD. OCCU-TEC completed sampling of sources that contained concentrations of lead above 5.0 parts per billion (ppb) and where fixtures had been subsequently replaced. Drinking water sampling was completed in accordance with the requirements set forth in Missouri Senate Bill #681/662 known as the “Get the Lead Out of School Drinking Water Act”.

METHODOLOGY

On October 6th, 2023, Mrs. Brittany Dickmeyer of OCCU-TEC completed testing of three (3) sources at the NENSD. Samples were collected as ‘First Draw’ samples after the fixtures had remained unused for a minimum period of 8 hours. Samples were collected in laboratory provided dedicated 250-milliliter plastic sample containers. Sample location information and photographic documentation are noted in the attached table.

Samples were shipped to Teklab, Inc. (Teklab) of Collinsville, Illinois for analysis using EPA method 200.8. Teklab is approved for sample analysis by the Missouri Department of Natural Resources (MDNR) under certification number 00930. A copy of the laboratory analytical results and Chain of Custody documentation are attached to this report.

RESULTS

Sample results were compared to the regulatory limit of 5.0 parts per billion (ppb) or micrograms per liter (ug/L) outlined in Missouri Senate Bill 681/662. Below is a list of samples collected and the associated analytical results.

Sample ID	Location	Type	Result (ug/L)
320-NEN-01 (Original Sample 222-NEN-09)	NW side of Kitchen NW wall S side	Sink	7
320-NEN-02 (Original Sample 222-NEN-10)	NW side of Kitchen NW wall N side	Sink	16.3
320-NEN-03 (Original Sample 222-NEN-11)	NW wall Standalone sink in kitchen	Sink	4.3

RECOMMENDATIONS

The following recommendations are in accordance with Senate Bill 681/662.

Based on the remediation activities completed and the elevated sample results persisting in the sources resampled, OCCU-TEC recommends the following:

In accordance with the requirements set forth in Missouri Bill 681/662, fixtures exhibiting lead concentrations above 5.0 ppb must be remediated by replacement of lead-containing pipes, solder, fittings or fixtures with lead-free components. Until such time as the source of the contamination has been remediated, the school shall install a filter that reduces the lead in drinking water on each water outlet inventoried with results above 5.0 ppb to ensure lead concentrations are below 5.0 ppb.

Within two weeks after receiving test results, the school shall make all testing results and any lead remediation plans available on the school's website. The school shall notify parents and staff via written notification within seven (7) business days after receiving test results exceeding 5.0 ppb. The notification shall include the following:

- Test results and a summary explaining the results.
- A description of any remedial steps taken.
- A description of the general health effects of lead contamination and community specific resources.
- Provide bottled water if there is not enough water to meet the drinking water needs of the students, teachers, and staff.

For fixtures exhibiting results above 5.0 ppb, follow up random “Flush” sampling shall be conducted annually on at least 25-percent of the remediated outlets until all outlets have been remediated. Drinking water sampling shall be conducted annually and annual drinking water test results shall be submitted by the district to the Department of Health and Senior Services (MDHSS).

LIMITATIONS

OCCU-TEC did not complete remediation of the sources sampled and cannot verify the completeness of remediation.

SIGNATURE(S)

OCCU-TEC appreciates the opportunity to provide the above referenced consulting services to the NENSD. If you have any questions regarding the contents of this report, please contact us at (816) 231-5580.

Respectfully,



Brittany Dickmeyer
Safety Specialist






Kevin Heriford
Director EH&S Dept. (QA/QC)

ATTACHMENTS

Outlet Inventory with Analytical Results Summary
Laboratory Analytical Results and COC Documentation

Drinking Water Assessment
Northeast Nodaway R-V School District

ID:	320-NEN-01 (222-NEN-09)	Location:	Sink		
Photo:		Manufacturer:	CFC		
		Description:			
		NW side of Kitchen NW wall S side			
		Result:	7	ppb	
Recommended Action:		Date Sampled:	10/6/2023	By:	BD
ID:	320-NEN-02 (222-NEN-10)	Location:	Sink		
Photo:		Manufacturer:	Sloan		
		Description:			
		NW side of Kitchen NW wall N side			
		Result:	16.2	ppb	
Recommended Action:		Date Sampled:	10/6/2023	By:	BD
ID:	320-NEN-03 (222-NEN-11)	Location:	Sink		
Photo:		Manufacturer:	Delta		
		Description:			
		NW wall Stand alone sink in kitchen.			
		Result:	4.3	ppb	
Recommended Action:		Date Sampled:	10/6/2023	By:	BD

October 20, 2023

Kevin Heriford
Occu-Tec
2604 NE Industrial Drive
Suite 230
North Kansas, MO 64117
TEL: (816) 231-5580
FAX:



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: 923320 NEN

WorkOrder: 23100821

Dear Kevin Heriford:

TEKLAB, INC received 3 samples on 10/11/2023 11:25:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Patrick Riley
Project Manager
(618)344-1004 ex 44
patrickriley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

This reporting package includes the following:

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Chain of Custody	Appended

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

Qualifiers

- # - Unknown hydrocarbon
- C - RL shown is a Client Requested Quantitation Limit
- H - Holding times exceeded
- J - Analyte detected below quantitation limits
- ND - Not Detected at the Reporting Limit
- S - Spike Recovery outside recovery limits
- X - Value exceeds Maximum Contaminant Level
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- I - Associated internal standard was outside method criteria
- M - Manual Integration used to determine area response
- R - RPD outside accepted recovery limits
- T - TIC(Tentatively identified compound)



Case Narrative

<http://www.teklabinc.com/>

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

Cooler Receipt Temp: N/A °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com



Accreditations

<http://www.teklabinc.com/>

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2024	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2024	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2024	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2024	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2024	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2024	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Occu-Tec
Client Project: 923320 NEN
Lab ID: 23100821-001
Matrix: DRINKING WATER

Work Order: 23100821
Report Date: 20-Oct-23
Client Sample ID: 320-NEN-01
Collection Date: 10/06/2023 7:56

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 4.1.4, 200.8 R5.4, METALS BY ICPMS (TOTAL)								
Lead	NELAP	1.0		7.0	µg/L	1	10/19/2023 19:12	213437



Laboratory Results

<http://www.teklabinc.com/>

Client: Occu-Tec
Client Project: 923320 NEN
Lab ID: 23100821-002
Matrix: DRINKING WATER

Work Order: 23100821
Report Date: 20-Oct-23
Client Sample ID: 320-NEN-02
Collection Date: 10/06/2023 7:57

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 4.1.4, 200.8 R5.4, METALS BY ICPMS (TOTAL)								
Lead	NELAP	1.0		16.7	µg/L	5	10/20/2023 10:54	213473



Laboratory Results

<http://www.teklabinc.com/>

Client: Occu-Tec
Client Project: 923320 NEN
Lab ID: 23100821-003
Matrix: DRINKING WATER

Work Order: 23100821
Report Date: 20-Oct-23
Client Sample ID: 320-NEN-03
Collection Date: 10/06/2023 7:57

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 4.1.4, 200.8 R5.4, METALS BY ICPMS (TOTAL)								
Lead	NELAP	1.0		4.3	µg/L	1	10/19/2023 19:46	213437



Receiving Check List

<http://www.teklabinc.com/>

Client: Occu-Tec

Work Order: 23100821

Client Project: 923320 NEN

Report Date: 20-Oct-23

Carrier: Crossroads

Received By: LM

Completed by:

Reviewed by:

On:

On:

13-Oct-23

17-Oct-23

Lindsey Maddox

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- | | | | | | |
|---|--|------------------------------|--------------------------------------|-------------------------------------|--------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C | N/A |
| Type of thermal preservation? | None <input checked="" type="checkbox"/> | Ice <input type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice | <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA | <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | | |

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- | | | | | |
|---|---|-----------------------------|-------------------|-------------------------------------|
| Water – at least one vial per sample has zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials | <input checked="" type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA | <input type="checkbox"/> |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA | <input checked="" type="checkbox"/> |

Any No responses must be detailed below or on the COC.

Samples were checked for turbidity and then preserved with nitric acid upon arrival in the laboratory.

CHAIN OF CUSTODY

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>OCCU-TEC Inc.</u> Address: <u>2604 NE Industrial Dr Suite 230</u> City/State/Zip: <u>North Kansas City, MO 64117</u> Contact: <u>Kevin Heriford</u> Phone: <u>816-825-0628</u> Email: <u>kheriford@occutec.com</u> Fax: _____				Samples on: <input type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input checked="" type="checkbox"/> NO ICE <u>NA</u> °C Preserved in: <input checked="" type="checkbox"/> LAB <input type="checkbox"/> FIELD <u>FOR LAB USE ONLY</u> LAB NOTES: _____														
Are these samples known to be involved in litigation? If yes, a surcharge will apply: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are these samples known to be hazardous? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Client Comments: <u><5.0ppb</u> <div style="text-align: center; font-size: 2em; opacity: 0.5;">COURIER</div>														
PROJECT NAME/NUMBER <u>923320</u>		SAMPLE COLLECTOR'S NAME <u>Brittany Dickmeyer</u>		# and Type of Containers UNP HNO3 NaOH H2SO4 HCL MeOH NaHSO4 TSP Other Lead by 200.8		INDICATE ANALYSIS REQUESTED												
RESULTS REQUESTED <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)			BILLING INSTRUCTIONS															
Lab Use Only	Sample ID	Date/Time Sampled		Matrix														
<u>23100821-w1</u>	320-NEN-01	10/6/2023	756	Aqueous	X													
<u>002</u>	320-NEN-02	10/6/2023	757	Aqueous	X													
<u>003</u>	320-NEN-03	10/6/2023	757	Aqueous	X													
				Aqueous														
				Aqueous														
				Aqueous														
				Aqueous														
				Aqueous														
				Aqueous														
				Aqueous														
				Aqueous														
Relinquished By		Date/Time		Received By		Date/Time												
<u>Brittany Dickmeyer</u>		<u>10/6/2023 1023</u>		<u>[Signature]</u>		<u>10/10/23 1420</u>												
<u>[Signature]</u>		<u>10/10/23 1400</u>		<u>[Signature]</u>		<u>10/11/23 1125</u>												

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions