

LEAD IN DRINKING WATER TESTING

At

**NORMANDY MIDDLE SCHOOL
7837 NATURAL BRIDGE ROAD
ST. LOUIS, MISSOURI 63121**

Prepared for

**NORMANDY SCHOOLS COLLABORATIVE
3855 LUCAS AND HUNT ROAD
ST. LOUIS, MISSOURI 63121**

Submitted by:

**PROFESSIONAL SERVICE INDUSTRIES, INC.
11826 BORMAN DRIVE
ST. LOUIS, MISSOURI 63146**

PSI PROJECT #0029-6396

August 30, 2024





Intertek-PSI
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St. Louis, Missouri 63146

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August 30, 2024

Normandy Schools Collaborative
3855 Lucas and Hunt Road
St. Louis, Missouri 63121

Attn: Mr. Mark Kennedy, Facilities Services
Email: mark.kennedy@normandysc.org

Re: **Report for Lead in Drinking Water Testing**
Normandy Middle School
7837 Natural Bridge Road
St. Louis, Missouri 63121
PSI Project Number: 0029-6396

Dear Mr. Kennedy:

In accordance with our agreement, Professional Service Industries, Inc. (PSI), an Intertek Company, performed Lead in Drinking Water Testing at Normandy Schools Collaborative's Normandy Middle School located at 7837 Natural Bridge Road in St. Louis, Missouri.

BACKGROUND

On June 30, 2022, Senate Bill 681 was signed and became effective on August 28, 2022. Section 160.077 of this Bill, "Get the Lead Out of School Drinking Water Act", requires school districts to inventory, create a plan, and to test drinking water sources for lead. PSI understands that Normandy Schools Collaborative (NSC) has requested lead in drinking water testing of drinking water outlets/high priority potable water sources at Normandy Middle School. According to Missouri Senate Bill 681 Section 160.077, drinking water outlets are defined as potable water fixtures that are used for drinking or food preparation, which also includes water sources used for cooking and/or for cleaning cooking and eating utensils. According to the Environmental Protection Agency (EPA), high priority potable water sources may include drinking fountains, water coolers, kitchen sinks, classroom combination sinks/drinking fountains, home economic rooms, teacher lounge sinks, nurse's office sinks, special needs classroom sinks, ice-makers, and any sink known to be or visibly used for consumption. It should be noted that in July 2024, PSI performed walkthrough evaluations to identify (inventory) these drinking water outlets/high priority potable water sources throughout the school district. Due to the passing of Missouri Senate Bill 681 Section 160.77, and the increased awareness for the potential of lead in drinking water, PSI was contacted to perform Lead in Drinking Water Testing within the facility in general accordance with Missouri Senate Bill 681 Section 160.077 and the EPA's 3T's for Reducing Lead in Drinking Water in Schools and Child Care Facilities – Revised Manual (Oct. 2018).



PURPOSE

The purpose of the lead in drinking water testing was to determine the lead concentrations in drinking water outlets/high priority potable water sources and to identify any source exceeding Missouri Senate Bill 681 Section 160.77 set action level of less than 5 parts per billion (PPB).

SCOPE OF SERVICES

PSI performed a walk-through evaluation of Normandy Middle School. The general evaluation consisted of a visual evaluation, identification of the drinking water outlets/high priority water sources (based on information provided from the July 2024 inventory evaluation), flushing of the water sources, and water sampling utilizing “first draw” methods.

Lead in Drinking Water Testing

The evaluation included visual observations of subject property grounds and drinking water outlets/high priority potable water source areas within the facility. The following elements were performed during the evaluation.

Lead in Drinking Water Testing

As required in Senate Bill 681 Section 160.077, PSI performed Lead in Drinking Water Testing utilizing initial “first draw” methods. A “first draw” sample is defined as the first two-hundred-fifty milliliter (250mL) sample to come out of the tap after an 8-hour period of inactivity, but no more than 18-hours. In order to successfully accomplish sampling within this time frame, PSI personnel flushed each water source the night before, and attached appropriate signage to prevent others from using the sources prior to the sampling event.

After each water source was flushed and was within the required sampling time frame, PSI arrived at the site to collect the water samples. On August 6, 2024, a total of forty-one (41) lead in drinking water samples were collected from drinking water outlets/high priority water sources within Normandy Middle School.

Water samples were collected by experienced PSI environmental personnel. Following Missouri Senate Bill 681 Section 160.77 and the EPA's 3T's for Reducing Lead in Drinking Water in Schools – Revised Technical Guidance, samples were collected in laboratory supplied 250-mL sample containers and analyzed for lead concentration in accordance with EPA Method 200.8. The samples were submitted to Teklab, Inc.'s Laboratory in Collinsville, Illinois under proper chain-of-custody. Teklab, Inc., is a certified State of Missouri Department of Natural Resources (MDNR) Drinking Water (MO Certification #930) and National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory.

Results were compared to Missouri Senate Bill 681 Section 160.77 “Get the Lead out of School Drinking Water Act” requirements of less than 5 parts per billion (PPB) which is equivalent to micrograms per liter (ug/L). It should be noted that 15 PPB is the set Action Level for the EPA (Primary Drinking Water Standards), and the action level in which Public Water Systems such as Missouri American Water, who supplies water to the district, must abide.



AUTHORIZATION

Authorization to perform this work was given by Mr. Willie Robinson of the Normandy Schools Collaborative signing PSI's Proposal # 0029-430663. Representatives of PSI performed the water sampling on August 6, 2024.

OBSERVATIONS AND ANALYTICAL RESULTS

August 6, 2024

On August 6, 2024, PSI representatives performed a walk-through evaluation of the facility and sampled the previously identified drinking water outlets/high priority water sources. A total of forty-one (41) "first draw" lead in drinking water samples were collected and submitted for laboratory analysis. It should be noted that a total of forty-three (43) water source locations were identified during the inventory; however, two (2) water source locations did not work at the time of the sampling event. Sample locations are illustrated on the attached site map(s).

Results can be referenced in the laboratory analytical report included at the end of this report. It should be noted that the analytical sensitivity for lead in drinking water analysis identified a reporting limit of 0.001 milligrams of lead per liter (mg/L) which equates to 1.0 microgram of lead per liter (ug/L) and/or 1.0 part per billion (PPB) of lead. The following table summarizes the August 6, 2024, results:

Sample ID	Source Type	Location/Room	Floor	Time Sampled	Sample Type	Results (PPB)
NMS-WC-HA-UL-01	WC	Hall A - Left	Upper Level	DNW	Initial - First Draw	DNW
NMS-WC-HA-UL-02	WC	Hall A - Right	Upper Level	11:31	Initial - First Draw	<1.0
NMS-BF-HA-UL-03	BF	Hall A	Upper Level	11:32	Initial - First Draw	<1.0
NMS-F-215-UL-04	F	Room 215	Upper Level	11:33	Initial - First Draw	<1.0
NMS-WC-HB-GL-05	WC	Hall B - Left	Ground Level	11:37	Initial - First Draw	<1.0
NMS-WC-HB-GL-06	WC	Hall B - Right	Ground Level	11:38	Initial - First Draw	<1.0
NMS-BF-HB-GL-07	BF	Hall B	Ground Level	11:39	Initial - First Draw	<1.0
NMS-F-118-GL-08	F	Room 118	Ground Level	11:40	Initial - First Draw	<1.0
NMS-WC-HC-GL-09	WC	Hall C	Ground Level	11:43	Initial - First Draw	<1.0
NMS-BF-HC-GL-10	BF	Hall C	Ground Level	11:44	Initial - First Draw	<1.0
NMS-IM-KIT-GL-11	IM	Kitchen	Ground Level	11:50	Initial - First Draw	<1.0
NMS-PF-KIT-GL-12	PF	Kitchen	Ground Level	11:51	Initial - First Draw	4.6
NMS-PF-KIT-GL-13	PF	Kitchen	Ground Level	11:52	Initial - First Draw	4.2
NMS-KF-KIT-GL-14	KF	Kitchen	Ground Level	11:53	Initial - First Draw	1.1



Sample ID	Source Type	Location/Room	Floor	Time Sampled	Sample Type	Results (PPB)
NMS-PF-KIT-GL-15	PF	Kitchen	Ground Level	11:54	Initial - First Draw	64.9
NMS-KF-KIT-GL-16	KF	Kitchen	Ground Level	11:55	Initial - First Draw	3.2
NMS-KF-KIT-GL-17	KF	Kitchen	Ground Level	11:56	Initial - First Draw	1.0
NMS-WF-KIT-GL-18	WF	Kitchen - Right	Ground Level	11:57	Initial - First Draw	<1.0
NMS-WF-KIT-GL-19	WF	Kitchen - Left	Ground Level	11:58	Initial - First Draw	3.3
NMS-SN-KIT-GL-20	SN	Kitchen	Ground Level	11:59	Initial - First Draw	<1.0
NMS-SN-KIT-GL-21	SN	Kitchen	Ground Level	12:00	Initial - First Draw	<1.0
NMS-WC-CAFÉ-GL-22	WC	Cafeteria - Right	Ground Level	12:03	Initial - First Draw	<1.0
NMS-WC-CAFÉ-GL-23	WC	Cafeteria - Left	Ground Level	12:04	Initial - First Draw	<1.0
NMS-BF-CAFÉ-GL-24	BF	Cafeteria	Ground Level	12:05	Initial - First Draw	<1.0
NMS-WC-CAFÉ-GL-25	WC	Cafeteria - Left	Ground Level	12:06	Initial - First Draw	<1.0
NMS-WC-CAFÉ-GL-26	WC	Cafeteria - Right	Ground Level	12:07	Initial - First Draw	2.7
NMS-BF-CAFÉ-GL-27	BF	Cafeteria	Ground Level	12:08	Initial - First Draw	1.7
NMS-WC-HD-GL-28	WC	Hall D - Left	Ground Level	12:10	Initial - First Draw	<1.0
NMS-WC-HD-GL-29	WC	Hall D - Right	Ground Level	12:11	Initial - First Draw	<1.0
NMS-BF-HD-GL-30	BF	Hall D	Ground Level	12:12	Initial - First Draw	1.6
NMS-F-315-GL-31	F	Room 315	Ground Level	12:13	Initial - First Draw	<1.0
NMS-F-NURSE-GL-32	F	Nurse Office	Ground Level	12:16	Initial - First Draw	2.0
NMS-F-317-GL-33	F	Room 317	Ground Level	12:17	Initial - First Draw	<1.0
NMS-F-MO-GL-34	F	Main Office	Ground Level	12:19	Initial - First Draw	<1.0
NMS-WC-HE-GL-35	WC	Hall E	Ground Level	12:20	Initial - First Draw	1.0
NMS-BF-HE-GL-36	BF	Hall E	Ground Level	12:21	Initial - First Draw	1.7
NMS-WC-HF-LL-37	WC	Hall F - Left	Lower Level	12:24	Initial - First Draw	<1.0
NMS-WC-HF-LL-38	WC	Hall F - Right	Lower Level	12:25	Initial - First Draw	<1.0
NMS-BF-HF-LL-39	BF	Hall F	Lower Level	12:26	Initial - First Draw	<1.0
NMS-WC-HF-LL-40	WC	Hall G - Left	Lower Level	DNW	Initial - First Draw	DNW



Sample ID	Source Type	Location/Room	Floor	Time Sampled	Sample Type	Results (PPB)
NMS-WC-HG-LL-41	WC	Hall G - Right	Lower Level	12:29	Initial - First Draw	<1.0
NMS-BF-HG-LL-42	BF	Hall G	Lower Level	12:30	Initial - First Draw	<1.0
NMS-F-WR-LL-43	F	Work Room	Lower Level	12:31	Initial - First Draw	1.3

Results that are regarded as elevated as compared to Missouri Bill 681 Section 160.77 “Get the Lead out of School Drinking Water Act” Required Action Level of 5 PPB, are bolded, italicized, and presented in larger print.

Source Type: Water Cooler = WC; BF = Bottle Filler; Drinking Fountain = DF; Faucet = F; Kitchen Faucet = KF; WF = Kitchen Washing Faucet; IM = Ice Maker; SN = Kitchen Spray Nozzle; PF = Pot Filler; CM = Coffee Maker; RL = Refrigerator Line
DNW = Does Not Work

CONCLUSIONS

On August 6, 2024, a total of forty-one (41) “first draw” lead in drinking water samples were collected from drinking water outlets/high priority potable water sources within Normandy Middle School.

Water sample results collected within Normandy Middle School indicated concentrations met the Missouri Senate Bill 681 Section 160.77 “Get the Lead out of School Drinking Water Act” Required Action Level of less than 5 PPB with the exception of water sample NMS-PF-KIT-GL-15 collected from a pot filler in the Kitchen on the Ground Level. Sample NMS-PF-KIT-GL-15 contained 64.9 PPB of lead; therefore, was detected at concentrations over the Missouri Senate Bill 681 Section 160.77 Required Action Level.

It should be noted that the other 40 out of 41 sampled water sources appeared to have met the Missouri Senate Bill 681 Section 160.77 “Get the Lead out of School Drinking Water Act” Required Action Level of less than 5 PPB criteria for lead in water.

RECOMMENDATIONS

Based on the August 6, 2024, water sample results, it appears that the drinking water outlets/high priority potable water sources tested within Normandy Schools Collaborative’s Normandy Middle School located at 7837 Natural Bridge Road in St. Louis, Missouri, meet Missouri Senate Bill 681 Section 160.77 “Get the Lead out of School Drinking Water Act” Required Action Level of less than 5 PPB with the exception of sample NMS-PF-KIT-GL-15 collected from a pot filler in the Kitchen on the Ground Level. Therefore, PSI recommends the following:

- Follow Missouri Senate Bill 681 Section 160.77 for additional requirements (i.e., reporting procedures on school website).
- Based on these sample results, most of the water samples met the Action Level and it appears that only one (1) of the fixtures are the source of the elevated lead levels, not the incoming water main. Therefore, PSI does not believe that adding a filter onto the incoming water main will rectify the elevated drinking water outlet in the facility.
- PSI recommends that the water source where NMS-PF-KIT-GL-15 was collected be shut off immediately (removed from service) and that School District plumbers evaluate this source and plumbing to determine what may be different with this source/pipe than the other ones within the facility. At a minimum, the aerator and



screen to this fixture should be removed/replaced, and this source be re-sampled; however, PSI recommends that the entire fixture and exposed piping (if any) to this source be removed and replaced (replacement instead of cleaning due to experience with other School Districts) back to the water shut off valve. After replacement, PSI recommends that the new aerator/screen be removed when turning the water back on for the first time (to ensure sediment does not build up due to potential grinding of the water shut off valve). After water passes through the new fixture, the new aerator/screen should be installed. In lieu of replacing the elevated water source, the water source location may be permanently removed from the facility.

- The Senate Bill recommends random sampling of at least 25% of the remediated/replaced drinking water outlets until all remediated sources have been tested; however, PSI recommends that all remediated sources be retested. Once the elevated sources are replaced and/or remediated, PSI recommends immediate follow up sampling (re-test first draw and a flush sample) of the elevated water sources to determine lead concentrations prior to returning the sources for regular use.
- After the source where sample NMS-PF-KIT-GL-15 was collected has been replaced and additional follow-up sampling events determine that the lead in water Action Level has been met (less than 5.0 PPB), PSI recommends to re-sample NMS-PF-KIT-GL-15 on a minimum of an annual basis (every year) utilizing “first draw” sampling procedures for at least three (3) consecutive years, or until the Missouri Department of Health and Senior Services establishes frequency sampling requirements for previous elevated sources. Once three (3) consecutive years have shown lead concentrations below 5 PPB, this source may follow water sampling frequency testing requirements as stated in the next bulleted item below.
- Re-sample the drinking water outlets/high priority water sources throughout the facility on a minimum of every 5 years utilizing “first draw” sampling procedures.
- Properly label non-drinking water outlets/low priority water sources (bathroom faucets, custodial faucets, science classroom faucets, water fixtures not intended for drinking/consumption/food preparation, etc.) throughout the facility with appropriate signage to document and inform staff, personnel, and students that these water sources are not intended for drinking water purposes.
- If drinking water outlets/high priority water source fixtures and/or plumbing have been repaired, altered, or changed in any way since this sampling event, PSI recommends sampling the water source utilizing “first draw” procedures prior to regular use.

WARRANTY

PSI warrants that the findings contained herein have been prepared with the level of care and skill ordinarily exercised by professionals practicing in the community. The scope of work addressed readily accessible areas. No other warranties are implied or expressed.



USE BY THIRD PARTIES

This report was prepared pursuant the contract Normandy Schools Collaborative has with PSI. That contractual relationship included an exchange of information about the subject site that was unique and between PSI and Normandy Schools Collaborative and serves as the basis upon which this report was prepared. Because of the importance of the communication between PSI and Normandy Schools Collaborative reliance or any use of this report by anyone other than Normandy Schools Collaborative for whom it was prepared, is prohibited and therefore not foreseeable to PSI. Reliance or use by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to PSI's contract with Normandy Schools Collaborative. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

UNIDENTIFIED CONDITIONS

This Lead in Drinking Water Testing report has been developed to provide the client with information regarding apparent conditions relating to the subject property. Although PSI believes that the findings and conclusions provided in this report are reasonable, the evaluation is necessarily limited to the conditions observed and to the information available at the time of the work. Due to the nature of the work, there is a possibility that conditions may exist which could not be identified within the scope of the work or which were not apparent at the time of our site work. The evaluation is also limited to information available from the client at the time it was conducted. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. PSI does not accept responsibility for changes in the state of the art.

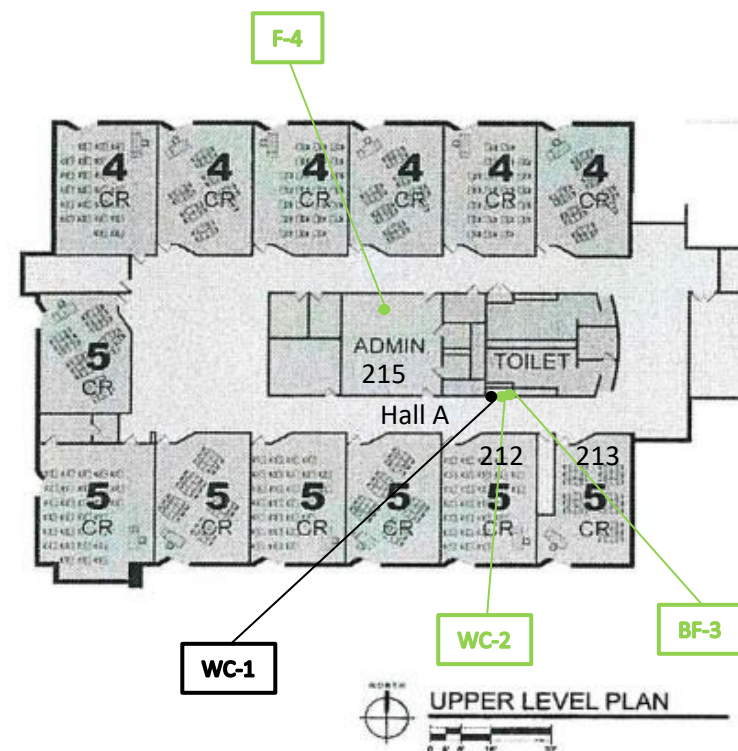
Please call with any questions you may have, or if PSI can be of additional service.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

Kevin C. Roberts
IH Project Manager

Greg Chambliss, RPIH
Principal Consultant

Enclosures Water Sample Location Map(s)
Laboratory Results / Certifications

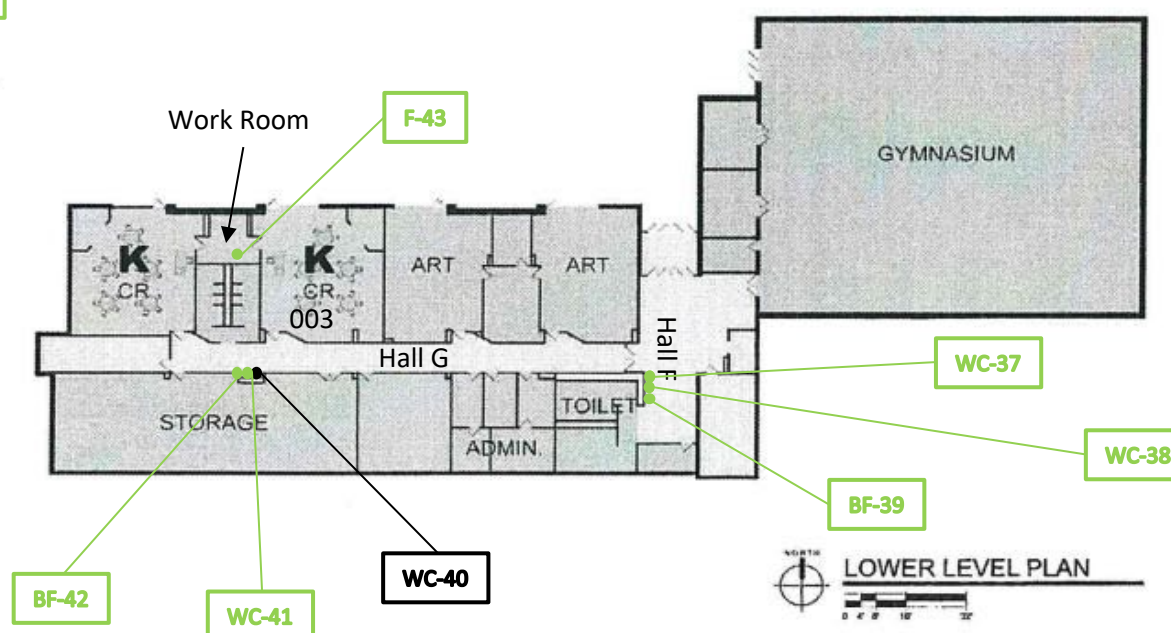


LEGEND

CLASSROOM
SSD
EXPLORATORY
LIBRARY
KITCHEN
CAFETERIA
ADMINISTRATION
MAINTENANCE

CLASSROOM DISTRIBUTION

6 - 4TH GRADE CLASSROOMS
7 - 5TH GRADE CLASSROOMS
2 - KINDERGARTEN CLASSROOMS



LEGEND

F = Faucet
WC = Water Cooler
BF = Bottle Filler
-1 = Sample Number



LUCAS CROSSING ELEMENTARY SCHOOL

NORMANDY SCHOOL DISTRICT
05-168.4

VERSION 2



- = Initial Sample Results *Below* Missouri Senate Bill 681 Section 160.077 Action Level of <5 PPB
- = Initial Sample Results *Above* Missouri Senate Bill 681 Section 160.077 Action Level of <5 PPB
- = Water Source did not work at time of sampling



Normandy Schools Collaborative
NORMANDY MIDDLE SCHOOL
7837 Natural Bridge Road, St. Louis, Missouri 63121
Upper Level and Lower Level

PSI Project No.: 0029-6396

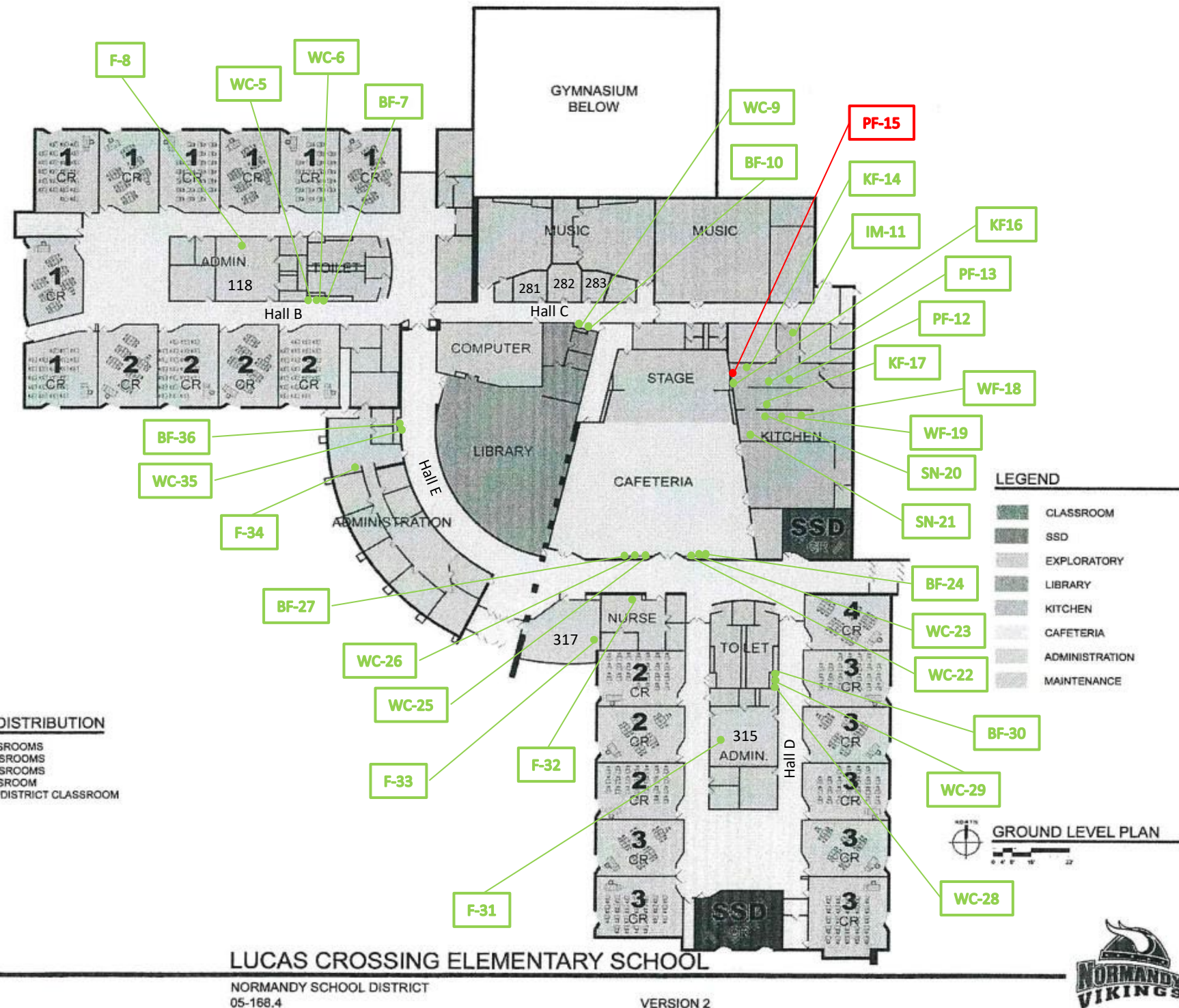
Lead in Drinking Water Sample Locations

Initial Sampling Date:

8/6/24

Drawn, not to scale, by:

mksk



LEGEND

F = Faucet
 WC = Water Cooler
 BF = Bottle Filler
 IM = Ice Maker
 SN = Spray Nozzle
 PF = Pot Filler
 KF = Kitchen Faucet
 WF = Washing Facet in Kitchen
 -1 = Sample Number

- = Initial Sample Results *Below* Missouri Senate Bill 681 Section 160.077 Action Level of <5 PPB
- = Initial Sample Results *Above* Missouri Senate Bill 681 Section 160.077 Action Level of <5 PPB
- = Water Source did not work at time of sampling

intertek
psi

Normandy Schools Collaborative
 NORMANDY MIDDLE SCHOOL
 7837 Natural Bridge Road, St. Louis, Missouri 63121
 Ground Level

PSI Project No.: 0029-6396

Lead in Drinking Water Sample Locations

Initial Sampling Date:

8/6/24

Drawn, not to scale, by:

mksk



August 16, 2024

Kevin Roberts
Professional Service Industries, Inc.
11826 Borman Dr
Maryland Heights, MO 63146
TEL: (314) 432-8073
FAX: (314) 432-5119



Illinois	100226
Illinois	1004652024-2
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Normandy - Middle at Lucas Crossing 0029-6396

WorkOrder: 24080631

Dear Kevin Roberts:

TEKLAB, INC received 41 samples on 8/7/2024 1:03:00 PM 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,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

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

Client: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	8
Chain of Custody	Appended

Client: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

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: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

Qualifiers

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



Case Narrative

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

Client: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

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

Client: Professional Service Industries, Inc.**Work Order:** 24080631**Client Project:** Normandy - Middle at Lucas Crossing 0029-6396**Report Date:** 16-Aug-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Laboratory Results

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

Client: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

Matrix: DRINKING WATER

Sample ID	Client Sample ID	Certification	Qual	RL	Result	Units	DF	Date Analyzed	Date Collected
EPA 600 4.1.4, 200.8 R5.4, METALS BY ICPMS (TOTAL)									
Lead									
24080631-001A	NMS-WC-HA-UL-02	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:07	08/06/2024 11:31
24080631-002A	NMS-BF-HA-UL-03	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:11	08/06/2024 11:32
24080631-003A	NMS-F-215-UL-04	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:14	08/06/2024 11:33
24080631-004A	NMS-WC-HB-GL-05	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:18	08/06/2024 11:37
24080631-005A	NMS-WC-HB-GL-06	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:22	08/06/2024 11:38
24080631-006A	NMS-BF-HB-GL-07	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:25	08/06/2024 11:39
24080631-007A	NMS-F-118-GL-08	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:29	08/06/2024 11:40
24080631-008A	NMS-WC-HC-GL-09	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:33	08/06/2024 11:43
24080631-009A	NMS-BF-HC-GL-10	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:55	08/06/2024 11:44
24080631-010A	NMS-IM-KIT-GL-11	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 19:58	08/06/2024 11:50
24080631-011A	NMS-PF-KIT-GL-12	NELAP		1.0	4.6	µg/L	1	08/09/2024 20:02	08/06/2024 11:51
24080631-012A	NMS-PF-KIT-GL-13	NELAP		1.0	4.2	µg/L	1	08/09/2024 20:06	08/06/2024 11:52
24080631-013A	NMS-KF-KIT-GL-14	NELAP		1.0	1.1	µg/L	1	08/09/2024 20:09	08/06/2024 11:53
24080631-014A	NMS-PF-KIT-GL-15	NELAP		1.0	64.9	µg/L	5	08/15/2024 23:34	08/06/2024 11:54
24080631-015A	NMS-KF-KIT-GL-16	NELAP		1.0	3.2	µg/L	1	08/09/2024 20:13	08/06/2024 11:55
24080631-016A	NMS-KF-KIT-GL-17	NELAP		1.0	1.0	µg/L	5	08/15/2024 23:38	08/06/2024 11:56
24080631-017A	NMS-WF-KIT-GL-18	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 20:24	08/06/2024 11:57
24080631-018A	NMS-WF-KIT-GL-19	NELAP		1.0	3.3	µg/L	1	08/09/2024 20:28	08/06/2024 11:58
24080631-019A	NMS-SN-KIT-GL-20	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 12:44	08/06/2024 11:59
24080631-020A	NMS-SN-KIT-GL-21	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 12:59	08/06/2024 12:00
24080631-021A	NMS-WC-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:02	08/06/2024 12:03
24080631-022A	NMS-WC-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:06	08/06/2024 12:04
24080631-023A	NMS-BF-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:10	08/06/2024 12:05
24080631-024A	NMS-WC-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:13	08/06/2024 12:06
24080631-025A	NMS-WC-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:17	08/06/2024 12:07
24080631-026A	NMS-BF-CAFÉ-GL-2	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:21	08/06/2024 12:08
24080631-027A	NMS-WC-HD-GL-28	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:24	08/06/2024 12:10
24080631-028A	NMS-WC-HD-GL-29	NELAP		1.0	< 1.0	µg/L	1	08/12/2024 13:46	08/06/2024 12:11
24080631-029A	NMS-BF-HD-GL-30	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:35	08/06/2024 12:12
24080631-030A	NMS-F-315-GL-31	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:39	08/06/2024 12:13
24080631-031A	NMS-F-NURSE-GL-3	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:43	08/06/2024 12:16
24080631-032A	NMS-F-317-GL-33	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:46	08/06/2024 12:17
24080631-033A	NMS-F-MO-GL-34	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:50	08/06/2024 12:19
24080631-034A	NMS-WC-HE-GL-35	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:54	08/06/2024 12:20
24080631-035A	NMS-BF-HE-GL-36	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 21:57	08/06/2024 12:21
24080631-036A	NMS-WC-HF-LL-37	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 22:01	08/06/2024 12:24
24080631-037A	NMS-WC-HF-LL-38	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 22:05	08/06/2024 12:25
24080631-038A	NMS-BF-HF-LL-39	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 22:08	08/06/2024 12:26
24080631-039A	NMS-WC-HG-LL-41	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 22:23	08/06/2024 12:29
24080631-040A	NMS-BF-HG-LL-42	NELAP		1.0	< 1.0	µg/L	1	08/09/2024 22:27	08/06/2024 12:30
24080631-041A	NMS-F-WR-LL-43	NELAP		1.0	1.3	µg/L	1	08/12/2024 18:43	08/06/2024 12:31



Receiving Check List

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

Client: Professional Service Industries, Inc.

Work Order: 24080631

Client Project: Normandy - Middle at Lucas Crossing 0029-6396

Report Date: 16-Aug-24

Carrier: John Duarte

Received By: NR

Completed by:

On:

07-Aug-24

Amber Dilallo

Reviewed by:

On:

07-Aug-24

Ellie Hopkins

Pages to follow:

Chain of custody

5

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C N/A

Type of thermal preservation?

None ☒

Ice ☐

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

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 ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

NA ☐

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

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.

pg. 1 of 5 Work order # 24080631

Client: Professional Service Industries, Inc.		Samples on: ☐ ICE ☐ BLUE ICE ☒ NO ICE <u>N/A</u> °C		LTG#
Address: 11826 Borman Dr		Preserved in: ☒ LAB ☐ FIELD		<u>FOR LAB USE ONLY</u>
City / State / Zip Maryland Heights, MO 63146		Lab Notes		
Contact: Kevin Roberts	Phone: (314) 432-8073	Client Comments:		
E-Mail: kevin.roberts@intertek.com	Fax:			

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard: ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No

Client Comments:
#01 not submitted since source did not work

[illegible]

pg. 2 of 5 Work order # 2408063

Client:	Professional Service Industries, Inc.		
Address:	11826 Borman Dr		
City / State / Zip	Maryland Heights, MO 63146		
Contact:	Kevin Roberts	Phone:	(314) 432-8073
E-Mail:	kevin.roberts@intertek.com	Fax:	

Preserved in: ☒ LAB ☐ FIELD **FOR LAB USE ONLY**

Lab Notes

Client Comments:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No

[illegible]

pg. 3 of 5 Work order # 24080631

Client: Professional Service Industries, Inc.	Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____
Address: 11826 Borman Dr	Preserved in: ☒ LAB ☒ FIELD <u>FOR LAB USE ONLY</u>
City / State / Zip Maryland Heights, MO 63146	Lab Notes
Contact: Kevin Roberts Phone: (314) 432-8073	Client Comments:
E-Mail: kevin.roberts@intertek.com Fax:	

Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section. ☐ Yes ☒ No

[illegible]

pg. 4 of 5 Work order # 24080631

Client: Professional Service Industries, Inc.		Samples on: ☐ ICE ☐ BLUE ICE ☐ NO ICE _____ °C	
Address: 11826 Borman Dr		Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u>	
City / State / Zip Maryland Heights, MO 63146		Lab Notes	
Contact: Kevin Roberts	Phone: (314) 432-8073		
E-Mail: kevin.roberts@intertek.com	Fax:	Client Comments:	

Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard. ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section. ☐ Yes ☒ No

Client Comments:
#40 not submitted since source did not work.

[illegible]

pg. 5 of 5 Work order # 24080631

Client:	Professional Service Industries, Inc.		
Address:	11826 Borman Dr		
City / State / Zip	Maryland Heights, MO 63146		
Contact:	Kevin Roberts	Phone:	(314) 432-8073
E-Mail:	kevin.roberts@intertek.com	Fax:	

Preserved in: ☒ LAB ☐ FIELD

FOR LAB USE ONLY

Lab Notes

Client Comments:

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? If yes, include details of the hazard: ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in the comment section: ☐ Yes ☒ No

[illegible]

State of Missouri
Department of Natural Resources

**Certificate of Approval
for Chemical Laboratory Service**

This is to certify that

Teklab, Incorporated

is hereby approved to perform the analysis of drinking water as specified on the
Certified Parameter List, which must accompany this certificate to be valid.

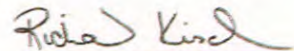
Certification Number 930

Date Issued December 13, 2021

Expiration Date January 31, 2025



Laboratory Certification Authority, Public Drinking Water Branch
Missouri Department of Natural Resources



Laboratory Certification Officer, Environmental Services Program
Missouri Department of Natural Resources

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DRINKING WATER LABORATORY
CERTIFIED PARAMETER LIST

This is to certify that

Teklab, Incorporated

located at

5445 Horseshoe Lake Road, Collinsville, IL 62234

has been approved to perform the indicated procedures on drinking water under the Missouri Public Drinking Water Regulations (10 CSR 60-5.020). Specific method numbers or references are included in parenthesis when appropriate.

INORGANIC

EPA 335.4

Total Cyanide

EPA 353.2

Nitrate, Nitrite, Total Nitrate and Nitrite

EPA 245.1

Mercury

EPA 200.7

Barium, Beryllium, Cadmium, Chromium, Copper, Nickel

EPA 200.8

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel, Selenium, Thallium

SM4500F-C

Fluoride

SM4500NO2-B

Nitrite

Teklab, Incorporated

Expiration Date: January 31, 2025

Missouri Certificate No.: 930

Original Certifying State: Illinois