



WATER SAMPLING AND REPORTING SERVICES

**COLUMBIA PUBLIC SCHOOLS
ALPHA HART LEWIS ELEMENTARY SCHOOL
5801 ARBOR POINTE PARKWAY
COLUMBIA, MISSOURI**

Prepared for:
**COLUMBIA PUBLIC SCHOOLS
COLUMBIA, MISSOURI**

Prepared by:
**GEOTECHNOLOGY, LLC, DBA UES
ST. LOUIS, MISSOURI**

Date:
JULY 20, 2024

Project No.:
J044517.01

**SAFETY
TEAMWORK
RESPONSIVENESS
INTEGRITY
VALUE
EXCELLENCE**



July 20, 2024

Mr. David Seamon
District Project Manager
Columbia Public Schools
1818 West Worley Street
Columbia, Missouri 65203

Re: Water Sampling and Reporting Services
Columbia Public Schools
Alpha Hart Lewis Elementary School
5801 Arbor Pointe Parkway
Columbia, Missouri
Project No. J044517.01

Dear Mr. Seamon:

In accordance with Columbia Public Schools' (CPS) Request for Proposal No. C-24043, dated October 10, 2023, Geotechnology, LLC, dba UES, is pleased to provide this drinking water sampling report for the referenced project. Our scope of services included flushing and sampling of drinking water from potable water outlets, laboratory analysis of water samples, and a letter report.

SITE AND PROJECT DESCRIPTION

The subject property consists of the existing Columbia Public Schools Alpha Hart Lewis Elementary School, located west of Arbor Pointe Parkway between Waco Road and Goldenwood Drive in Columbia, Missouri. The purpose of the drinking water sampling was to identify potable water outlets that may require remediation in accordance with the State of Missouri's *Get the Lead out of School Drinking Water Act* (RSMo 160.077).

DRINKING WATER SAMPLING

RSMo 160.077 sets standards for lead concentrations in school drinking water, stating that each Missouri school shall provide drinking water with a lead concentration level below five (5) parts per billion (ppb). This Act requires schools to conduct the inventory, sampling, remediation, and monitoring at all potable drinking water outlets used or potentially used for drinking, food preparation, and cooking or cleaning utensils.

In general conformance with the RSMo 160.077 requirements, and the Environmental Protection Agency's (EPA) *3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities* manual, initial water flushing and sampling activities were conducted on January 11 and 12, 2024, by Mr. Brad Lohrum, a Missouri-licensed lead risk assessor. Mr. Lohrum was assisted by Mr. Robert Haefner, a Missouri-licensed lead risk assessor, and Mr. Seth Lamble, a



Missouri-licensed lead inspector. Copies of training certificates and lead licenses for Messrs. Lohrum, Haefner, and Lamble are included in Appendix A.

An inventory of potable drinking water outlets was provided to UES by CPS. UES personnel sampled the identified outlets utilizing the EPA's "first-draw" methods. The identified outlets were flushed, then allowed to sit undisturbed for a period of 8-18 hours. Following this stagnation period, the first 250 milliliters (ml) of water expelled from the outlets were collected in laboratory-provided containers. A copy of the drinking water sampling forms, which include a list of sample locations, and the times and dates of flushing and sampling activities, is included in Appendix B. Floor plans depicting approximate sample locations are included as Figures 1 and 2.

Using standard chain-of-custody procedures, the drinking water samples were submitted to Teklab, Inc. of Collinsville, Illinois, an independent, certified Missouri Department of Natural Resources (MDNR) Drinking Water and National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory, for analysis of lead content via EPA Method 200.8: *Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry*.

RESULTS

Laboratory analyses detected the presence of lead at or above 5 ppb in the following sample.

TABLE 1
DRINKING WATER OUTLETS AT OR ABOVE 5 PARTS PER BILLION

Sample Number / Location and Fixture Type	Results
AHL-03 / Kitchen Dish Wash Sink – Left	7.8 ppb

UES will not be able to represent that the site contains no lead-bearing water outlets beyond those detected or observed by UES during flushing and sampling activities. Copies of the drinking water analytical results are included in Appendix C.

RECOMMENDATIONS

Our recommendations are summarized below:

- It is our understanding that the outlet identified in Table 1 has either been removed, marked as non-potable, or has otherwise been taken out of service. Should this fixture be put back into service following remediation activities, or if a replacement fixture is to be put into service, further sampling and testing should be conducted.

* * * * *



The following attachments are included in and complete this report:

- | | |
|------------|--|
| Figure 1 | - Drinking Water Sample Locations – First Floor |
| Figure 2 | - Drinking Water Sample Locations – Second Floor |
| Appendix A | - Certificates and Licenses of Environmental Professionals |
| Appendix B | - Drinking Water Sampling Forms |
| Appendix C | - Drinking Water Laboratory Data Sheets |
| Appendix D | - Limitations of Report |

* * * * *

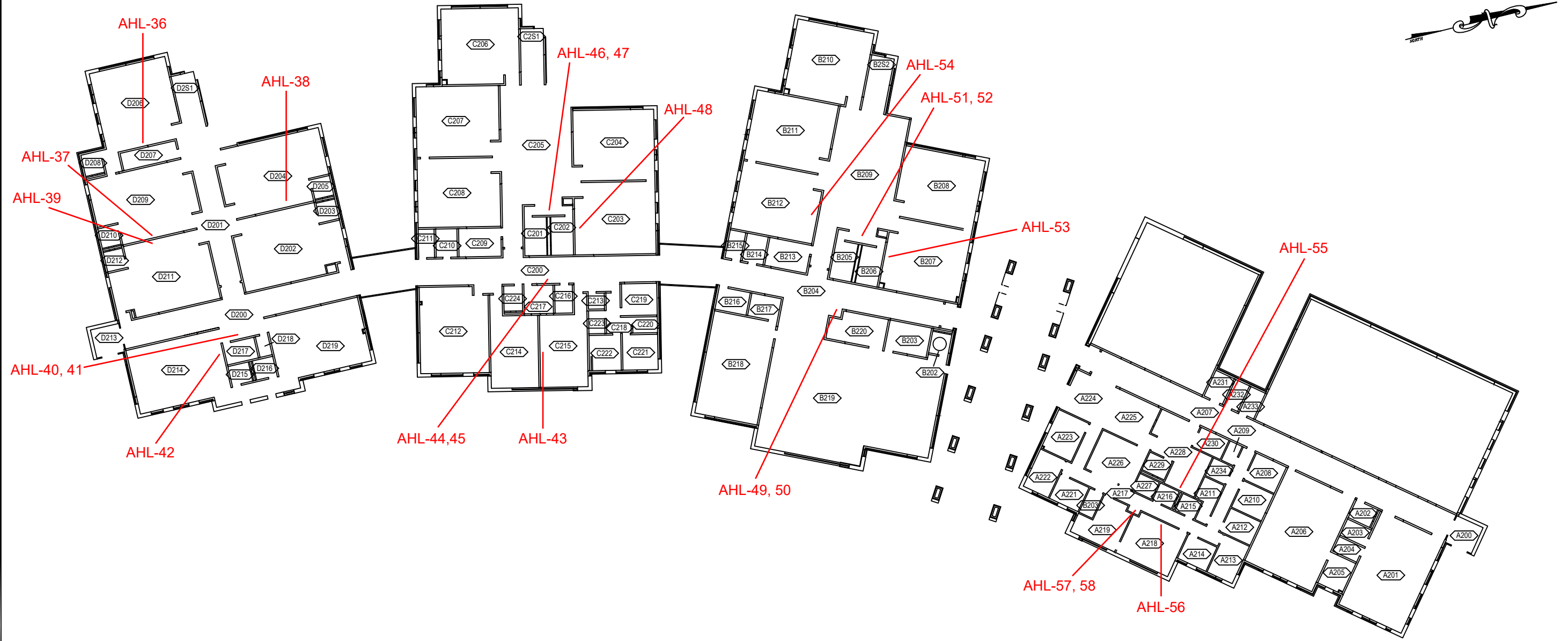
We appreciate the opportunity to provide our professional environmental consulting services to Columbia Public Schools on this project. If you have any questions or comments, please contact me at (314) 997-7440.

Very truly yours,

UES


Bradley J. Lohrum
Project Manager

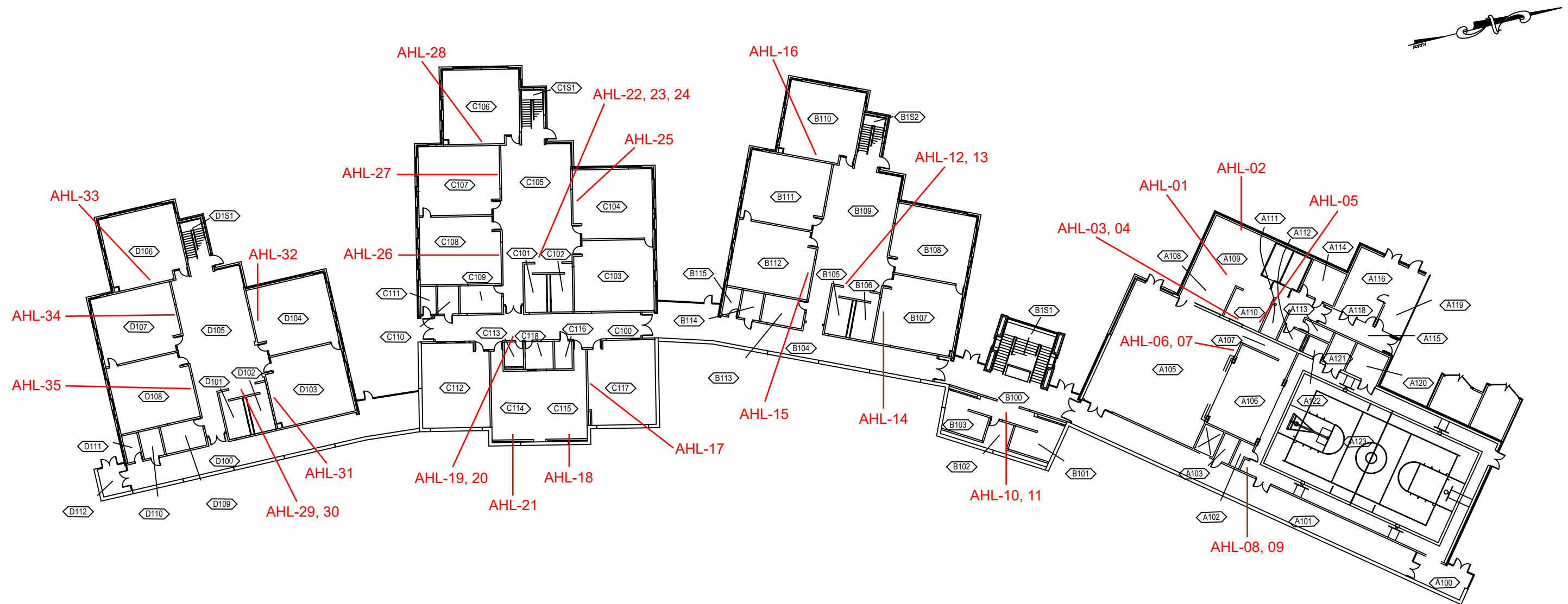
BJL/MSR:bjl/jsj



NOTES


- 1. Drawing not to scale.
- 2. Drawing adapted from "Alpha Hart Lewis Elementary First Floor Plan", provided by the client, dated 06/11/2019.
- 3. Sample locations were identified in the field relative to building features and are approximate only.

Drawn By: BJJ	Ck'd By: BJJ	App'vd By: MSR
Date: 7-20-24	Date: 7-20-24	Date: 7-20-24
		
5810 Arbor Pointe Parkway Columbia, Missouri		
DRINKING WATER SAMPLING LOCATIONS - FIRST FLOOR		
Project Number J044517.01		FIGURE 1



NOTES

1. Drawing not to scale.
2. Drawing adapted from "Alpha Hart Lewis Elementary Second Floor Plan", provided by the client, dated 06/11/2019.
3. Sample locations were identified in the field relative to building features and are approximate only.

Drawn By: BJJ	Ck'd By: BJJ	App'vd By: MSR
Date: 7-20-24	Date: 7-20-24	Date: 7-20-24
		
5810 Arbor Pointe Parkway Columbia, Missouri		
DRINKING WATER SAMPLING LOCATIONS - SECOND FLOOR		
Project Number J044517.01	FIGURE 2	



APPENDIX A

CERTIFICATES AND LICENSES OF ENVIRONMENTAL PROFESSIONALS

COLLEGE FOR
PUBLIC HEALTH & SOCIAL JUSTICE

SAINT LOUIS UNIVERSITY

CENTER FOR ENVIRONMENTAL EDUCATION AND TRAINING

verifies that

Bradley Lohrum

817 S Sappington Road, Crestwood, MO 63126

has attended 8 contact hours of training and successfully passed an examination


Lead Risk Assessor Refresher

St. Louis, MO

Certificate # CEET 325 - 12/12/2022 - 189152

Examination Date: 12/12/2022

CEUs: 0.8


Christopher C. King PhD

Director, Center for Environmental
Education and Training

Certificate expiration is 3 years from examination date for Illinois Dept. of Public Health

Center for Environmental Education and Training, 3545 Lafayette, St. Louis, MO 63104

(314) 977-8256 shu.edu/x39753.xml

This training course has been accredited by the Illinois Department of Public Health, and by the Missouri Department of Health & Senior Services.

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

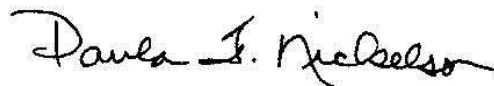
Bradley J. Lohrum

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

Lead Risk Assessor

Category of License

Issuance Date: **1/20/2023**
Expiration Date: **1/20/2025**
License Number: **230120-300006460**



Paula F. Nickelson
Acting Director
Department of Health and Senior Services



SAINT LOUIS UNIVERSITY

CENTER FOR ENVIRONMENTAL EDUCATION AND TRAINING

verifies that

Robert Haefner

3951 Dover Pl, St. Louis, MO 63116

has attended 8 contact hours of training and successfully passed examination for

Lead Risk Assessor Refresher

St. Louis, MO

Certificate # CEET 325 3/6/2023 118035
Examination Date: 3/6/2023
CEUs: 0.8

Rene Dulle, MBA, Director
Center for Environmental Education & Training

Center for Environmental Education and Training | 3545 Lafayette Ave., St. Louis, MO 63104
(314) 977-8256 | slu.edu/public-health-social-justice/centers-institutes/ceet.php

The training course has been accredited by the Missouri Dept. of Health and Senior Services, and by the Illinois Dept. of Public Health. Certificate expiration is 3 years from examination date for Illinois Dept. of Public Health.

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Robert J. Haefner

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

Lead Risk Assessor
Category of License

Issuance Date:	3/28/2023
Expiration Date:	3/30/2025
License Number:	150330-300004672

Paula F. Nickelson

Paula F. Nickelson
Acting Director
Department of Health and Senior Services

Lead Licensing Program, PO Box 570, Jefferson City, MO 65102

COLLEGE FOR
PUBLIC HEALTH & SOCIAL JUSTICE
SAINT LOUIS UNIVERSITY

CENTER FOR ENVIRONMENTAL EDUCATION AND TRAINING

verifies that

Seth Lamble

12040 Chaparral Drive, Bridgeton, Missouri 63044

has attended 8 contact hours of training and successfully passed an examination


Lead Inspector Refresher

St. Louis, MO

Certificate # CEET 315 - 1/4/2022 - 118633

Examination Date: 1/4/2022

CEUs: 0.8


Christopher C. King PhD
Director, Center for Environmental
Education and Training

Certificate expiration is 3 years from examination date for Illinois Dept. of Public Health

Center for Environmental Education and Training, 3545 Lafayette, St. Louis, MO 63104
(314) 977-8256 slu.edu/x39753.xml

This training course has been accredited by the Illinois Department of Public Health, and by the Missouri Department of Health & Senior Services.

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Seth P. Lamble

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

Lead Inspector
Category of License

Issuance Date: **4/25/2022**
Expiration Date: **4/25/2024**
License Number: **160425-300004897**



Paula F. Nickelson

Paula F. Nickelson
Acting Director
Department of Health and Senior Services

Lead Licensing Program, PO Box 570, Jefferson City, MO 65102

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

Lead Abatement Contractor License

The person, firm or corporation whose name appears on this certificate is licensed as a Lead Abatement Contractor as set forth in the Missouri Revised Statutes 701.300-701.338 and 19 CSR 30-70.180, as long as not suspended or revoked, and is hereby authorized to engage in lead-bearing substance activities.

Issued to:

Geotechnology, LLC

**11816 Lackland Road, Suite 150
St. Louis, MO 63146**

Issuance Date: 2/8/2022
Expiration Date: 2/8/2024
License Number: 060208-0095



A handwritten signature in black ink, reading 'Donald G. Kauerauf', is positioned above the printed name.

Donald G. Kauerauf
Director

Department of Health and Senior Services



APPENDIX B

DRINKING WATER SAMPLING FORMS



DRINKING WATER SAMPLING FORM

Page 1 of 3

Project Name: Columbia Public Schools Water
Sampling and Reporting Services
Building Name: Alpha Hart Lewis Elementary

Project Number: J044517.01
Address: 5801 Arbor Pointe Parkway
Columbia, Missouri

Sample ID	Fixture Type	Location	Flushed By - Date - Time	Sampled By - Date - Time
AHL-01	S	Kitchen Food Prep - Center	RJH - 1/11/24 - 20:22	RJH - 1/12/24 - 5:47
AHL-02	S	Kitchen Food Prep - West	RJH - 1/11/24 - 20:22	BJL - 1/12/24 - 5:47
AHL-03	S	Kitchen Dish Wash - Left	SPL - 1/11/24 - 20:22	BJL - 1/12/24 - 5:47
AHL-04	S	Kitchen Dish Wash - Right	SPL - 1/11/24 - 20:22	BJL - 1/12/24 - 5:47
AHL-05	ICE	Kitchen	SPL - 1/11/24 - 20:22	RJH - 1/12/24 - 5:48
AHL-06	WF	Commons - Left	SPL - 1/11/24 - 20:24	RJH - 1/12/24 - 5:49
AHL-07	WF	Commons - Right	SPL - 1/11/24 - 20:24	RJH - 1/12/24 - 5:49
AHL-08	WF	Gym - Left	SPL - 1/11/24 - 20:26	RJH - 1/12/24 - 5:51
AHL-09	WF	Gym - Right	SPL - 1/11/24 - 20:26	RJH - 1/12/24 - 5:51
AHL-10	WF	Room B100 - Left	RJH - 1/11/24 - 20:28	RJH - 1/12/24 - 5:52
AHL-11	WF	Room B100 - Right	RJH - 1/11/24 - 20:28	SPL - 1/12/24 - 5:52
AHL-12	WF	Room B109 - Left	RJH - 1/11/24 - 20:30	RJH - 1/12/24 - 5:53
AHL-13	WF	Room B109 - Right	SPL - 1/11/24 - 20:30	SPL - 1/12/24 - 5:53
AHL-14	S	Room B107	SPL - 1/11/24 - 20:31	RJH - 1/12/24 - 5:54
AHL-15	S	Room B112	RJH - 1/11/24 - 20:32	SPL - 1/12/24 - 5:54
AHL-16	S	Room B110	SPL - 1/11/24 - 20:33	RJH - 1/12/24 - 5:55
AHL-17	S	Room C117	RJH - 1/11/24 - 20:34	RJH - 1/12/24 - 5:56
AHL-18	S	Room C115	SPL - 1/11/24 - 20:35	RJH - 1/12/24 - 5:57
AHL-19	WF	Hallway at Room C113 - Left	RJH - 1/11/24 - 20:37	SPL - 1/12/24 - 5:57
AHL-20	WF	Hallway at Room C113 - Right	SPL - 1/11/24 - 20:37	RJH - 1/12/24 - 5:57
AHL-21	S	Room C114	SPL - 1/11/24 - 20:38	RJH - 1/12/24 - 5:58
AHL-22	WF	Room C105 - Left	RJH - 1/11/24 - 20:40	RJH - 1/12/24 - 5:59
AHL-23	BF	Room C105 - Right	RJH - 1/11/24 - 20:40	SPL - 1/12/24 - 5:59
AHL-24	WF	Room C105 - Right	RJH - 1/11/24 - 20:40	SPL - 1/12/24 - 5:59
AHL-25	S	Room C104	RJH - 1/11/24 - 20:42	SPL - 1/12/24 - 6:00

BF=Bottle Filling
B=Bubbler

FW=Filtered Water
ICE=Ice Machine

S=Classroom/Other Sink
WF=Water Fountain

**DRINKING WATER SAMPLING FORM**

Page 2 of 3

Project Name: Columbia Public Schools Water
Sampling and Reporting Services
Building Name: Alpha Hart Lewis Elementary

Project Number: J044517.01
Address: 5801 Arbor Pointe Parkway
Columbia, Missouri

Sample ID	Fixture Type	Location	Flushed By - Date - Time	Sampled By - Date - Time
AHL-26	S	Room C108	SPL - 1/11/24 - 20:44	RJH - 1/12/24 - 6:01
AHL-27	S	Room C107	SPL - 1/11/24 - 20:46	RJH - 1/12/24 - 6:01
AHL-28	S	Room C106	SPL - 1/11/24 - 20:46	SPL - 1/12/24 - 6:02
AHL-29	WF	Room D105 - Left	RJH - 1/11/24 - 20:49	RJH - 1/12/24 - 6:04
AHL-30	WF	Room D105 - Right	RJH - 1/11/24 - 20:49	SPL - 1/12/24 - 6:04
AHL-31	S	Room D103	SPL - 1/11/24 - 20:50	SPL - 1/12/24 - 6:04
AHL-32	S	Room D104	RJH - 1/11/24 - 20:51	RJH - 1/12/24 - 6:05
AHL-33	S	Room D106	SPL - 1/11/24 - 20:52	RJH - 1/12/24 - 6:06
AHL-34	S	Room D107	RJH - 1/11/24 - 20:52	RJH - 1/12/24 - 6:07
AHL-35	S	Room D108	SPL - 1/11/24 - 20:53	RJH - 1/12/24 - 6:08
AHL-36	S	Room D206	RJH - 1/11/24 - 20:54	RJH - 1/12/24 - 6:08
AHL-37	S	Room D209	SPL - 1/11/24 - 20:55	RJH - 1/12/24 - 6:09
AHL-38	S	Room D204	RJH - 1/11/24 - 20:56	RJH - 1/12/24 - 6:10
AHL-39	S	Room D211	SPL - 1/11/24 - 20:57	RJH - 1/12/24 - 6:10
AHL-40	WF	Room D200 - Left	RJH - 1/11/24 - 20:58	RJH - 1/12/24 - 6:11
AHL-41	WF	Room D200 - Right	RJH - 1/11/24 - 20:58	RJH - 1/12/24 - 6:11
AHL-42	S	Room D214	SPL - 1/11/24 - 20:58	RJH - 1/12/24 - 6:13
AHL-43	S	Room C215	RJH - 1/11/24 - 21:01	SPL - 1/12/24 - 6:15
AHL-44	WF	Room C200 - Left	SPL - 1/11/24 - 21:01	RJH - 1/12/24 - 6:15
AHL-45	WF	Room C200 - Right	SPL - 1/11/24 - 21:01	SPL - 1/12/24 - 6:15
AHL-46	WF	Room C205 - Left	SPL - 1/11/24 - 21:02	RJH - 1/12/24 - 6:16
AHL-47	WF	Room C205 - Right	SPL - 1/11/24 - 21:02	RJH - 1/12/24 - 6:16
AHL-48	S	Room C203	RJH - 1/11/24 - 21:03	SPL - 1/12/24 - 6:16
AHL-49	WF	Room B204 - Left	SPL - 1/11/24 - 21:07	RJH - 1/12/24 - 6:17
AHL-50	WF	Room B204 - Right	SPL - 1/11/24 - 21:07	RJH - 1/12/24 - 6:17

BF=Bottle Filling
B=Bubbler

FW=Filtered Water
ICE=Ice Machine

S=Classroom/Other Sink
WF=Water Fountain



APPENDIX C

DRINKING WATER LABORATORY DATA SHEETS

February 14, 2024

Brad Lohrum
Geotechnology, Inc.
11816 Lackland Road
St. Louis, MO 63146
TEL: (314) 997-7440
FAX: (314) 997-2067



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

RE: J044517.01

WorkOrder: 24011320

Dear Brad Lohrum:

TEKLAB, INC received 60 samples on 1/19/2024 10:00:00 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,



Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Report Contents

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

Client: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-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	9
Chain of Custody	Appended

Client: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-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: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-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: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-24

Cooler Receipt Temp: NA °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: Geotechnology, Inc.**Work Order:** 24011320**Client Project:** J044517.01**Report Date:** 14-Feb-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	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		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-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									
24011320-001A	LMS-79	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 5:19	01/12/2024 5:12
24011320-002A	LMS-80	NELAP		1.0	2.3	µg/L	1	02/02/2024 20:27	01/12/2024 5:12
24011320-003A	LMS-81	NELAP		1.0	2.9	µg/L	1	02/02/2024 20:31	01/12/2024 5:13
24011320-004A	LMS-82	NELAP		1.0	3.0	µg/L	1	02/02/2024 20:35	01/12/2024 5:13
24011320-005A	LMS-83	NELAP		1.0	2.4	µg/L	1	02/02/2024 20:38	01/12/2024 5:14
24011320-006A	LMS-84	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 20:49	01/12/2024 5:14
24011320-007A	LMS-85	NELAP		1.0	2.2	µg/L	5	02/12/2024 16:18	01/12/2024 5:15
24011320-008A	LMS-86	NELAP		1.0	< 1.0	µg/L	5	02/12/2024 16:52	01/12/2024 5:15
24011320-009A	LMS-87	NELAP		1.0	1.6	µg/L	5	02/12/2024 16:57	01/12/2024 5:16
24011320-010A	LMS-88	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:18	01/12/2024 5:16
24011320-011A	LMS-89	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:22	01/12/2024 5:17
24011320-012A	LMS-90	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:26	01/12/2024 5:17
24011320-013A	LMS-91	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:31	01/12/2024 5:18
24011320-014A	LMS-92	NELAP		1.0	1.3	µg/L	1	02/03/2024 5:47	01/12/2024 5:18
24011320-015A	LMS-93	NELAP		1.0	< 1.0	µg/L	5	02/12/2024 17:01	01/12/2024 5:19
24011320-016A	LMS-94	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:35	01/12/2024 5:19
24011320-017A	LMS-95	NELAP		1.0	1.1	µg/L	1	02/03/2024 5:39	01/12/2024 5:20
24011320-018A	LMS-96	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 5:43	01/12/2024 5:20
24011320-019A	LMS-97	NELAP		1.0	1.6	µg/L	1	02/03/2024 6:12	01/12/2024 5:20
24011320-020A	LMS-98	NELAP		1.0	6.1	µg/L	5	02/08/2024 12:41	01/12/2024 5:20
24011320-021A	LMS-99	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:16	01/12/2024 5:21
24011320-022A	LMS-100	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:20	01/12/2024 5:21
24011320-023A	LMS-101	NELAP		1.0	1.0	µg/L	1	02/03/2024 6:24	01/12/2024 5:23
24011320-024A	LMS-102	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 3:16	01/12/2024 5:23
24011320-025A	LMS-103	NELAP		1.0	4.4	µg/L	1	02/06/2024 3:19	01/12/2024 5:24
24011320-026A	LMS-104	NELAP		1.0	1.9	µg/L	5	02/08/2024 11:27	01/12/2024 5:24
24011320-027A	LMS-105	NELAP		1.0	15.2	µg/L	5	02/08/2024 11:32	01/12/2024 5:24
24011320-028A	LMS-106	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 3:23	01/12/2024 5:26
24011320-029A	LMS-107	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 3:27	01/12/2024 5:26
24011320-030A	LMS-108	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 3:30	01/12/2024 5:26
24011320-031A	LMS-109	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 4:55	01/12/2024 5:26
24011320-032A	LMS-110	NELAP		1.0	1.1	µg/L	1	02/06/2024 20:40	01/12/2024 5:29
24011320-033A	LMS-111	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 4:59	01/12/2024 5:29
24011320-034A	LMS-112	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 21:15	01/12/2024 5:32
24011320-035A	LMS-113	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 5:03	01/12/2024 5:32
24011320-036A	LMS-114	NELAP		1.0	4.3	µg/L	1	02/06/2024 21:23	01/12/2024 5:32
24011320-037A	AHL-01	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 21:28	01/12/2024 5:47
24011320-038A	AHL-02	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 21:32	01/12/2024 5:47
24011320-039A	AHL-03	NELAP		1.0	7.8	µg/L	5	02/08/2024 11:36	01/12/2024 5:47
24011320-040A	AHL-04	NELAP		1.0	1.3	µg/L	1	02/06/2024 21:36	01/12/2024 5:47
24011320-041A	AHL-05	NELAP		1.0	< 1.0	µg/L	1	02/06/2024 21:45	01/12/2024 5:48
24011320-042A	AHL-06	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 5:16	01/12/2024 5:49
24011320-043A	AHL-07	NELAP		1.0	< 1.0	µg/L	1	02/14/2024 9:15	01/12/2024 5:49
24011320-044A	AHL-08	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 17:36	01/12/2024 5:51
24011320-045A	AHL-09	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:01	01/12/2024 5:51
24011320-046A	AHL-10	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 17:40	01/12/2024 5:52
24011320-047A	AHL-11	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 17:44	01/12/2024 5:52
24011320-048A	AHL-12	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 17:48	01/12/2024 5:53



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-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									
24011320-049A	AHL-13	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 17:52	01/12/2024 5:53
24011320-050A	AHL-14	NELAP		1.0	1.7	µg/L	1	02/02/2024 17:56	01/12/2024 5:54
24011320-051A	AHL-15	NELAP		1.0	1.2	µg/L	1	02/02/2024 18:25	01/12/2024 5:54
24011320-052A	AHL-16	NELAP		1.0	3.0	µg/L	5	02/08/2024 11:40	01/12/2024 5:55
24011320-053A	AHL-17	NELAP		1.0	1.6	µg/L	1	02/02/2024 18:29	01/12/2024 5:56
24011320-054A	AHL-18	NELAP		1.0	3.0	µg/L	1	02/02/2024 18:34	01/12/2024 5:57
24011320-055A	AHL-19	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:38	01/12/2024 5:57
24011320-056A	AHL-20	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:54	01/12/2024 5:57
24011320-057A	AHL-21	NELAP		1.0	2.1	µg/L	5	02/08/2024 12:11	01/12/2024 5:58
24011320-058A	AHL-22	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:42	01/12/2024 5:59
24011320-059A	AHL-23	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:46	01/12/2024 5:59
24011320-060A	AHL-24	NELAP		1.0	< 1.0	µg/L	1	02/02/2024 18:50	01/12/2024 5:59



Receiving Check List

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

Client: Geotechnology, Inc.

Work Order: 24011320

Client Project: J044517.01

Report Date: 14-Feb-24

Carrier: Employee

Received By: MEK

Completed by:

Reviewed by:

On:

On:

19-Jan-24

19-Jan-24

Mary E Kemp

Ellie Hopkins

Pages to follow:

Chain of custody

6

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C NA

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. - MaryKemp - 1/19/2024 11:07:48 AM

CHAIN OF CUSTODY

pg. 34 of 74 Work order # 24011320

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

Client: Geotechnology, LLC Address: 11816 Lackland Road City / State / Zip: St. Louis, MO 63146 Contact: Brad Lohrum Phone: (314) 997-7440 E-Mail: blohrum@teamues.com Fax:	Samples on: <input checked="" type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input type="checkbox"/> NO ICE °C LTG# Preserved in: <input checked="" type="checkbox"/> LAB <input type="checkbox"/> 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? ☐ 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

Project Name/Number		Sample Collector's Name		MATRIX		INDICATE ANALYSIS REQUESTED																															
Results Requested		Billing Instructions		# and Type of Containers										Drinking Water		Soil		Special Waste		Groundwater		DW - Lead E200.8															
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)				UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	Aqueous																									
Lab Use Only	Sample Identification	Date/Time Sampled																																			
24011320-181	LMS-109	1/12/24 5:26																																			
032	LMS-10	5:29																																			
033	111	+																																			
034	112	5:32																																			
035	113	+																																			
036	114	+																																			
037	AHL-01	5:47																																			
038	AHL-02																																				
039	03																																				
040	04																																				
Relinquished By		Date/Time		Received By		Date/Time																															
Brad Lohrum		1/18/24		A. D. King		1/18/24																															
R. J. King		1/19/24 10:00		M. J. King		1/19/24 1000																															

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.

BottleOrder: 80481



pg. 35 of 74 Work order # 24011320

Client: <u>Geotechnology, LLC</u>		Samples on: <input checked="" type="checkbox"/> ICE <input checked="" type="checkbox"/> BLUE ICE <input checked="" type="checkbox"/> NO ICE <u> </u> °C <u> </u> LTG# <u> </u>	
Address: <u>11816 Lackland Road</u>		Preserved in: <input checked="" type="checkbox"/> LAB <input checked="" type="checkbox"/> FIELD <u> </u> FOR LAB USE ONLY	
City / State / Zip <u>St. Louis, MO 63146</u>		Lab Notes	
Contact: <u>Brad Lohrum</u> Phone: <u>(314) 997-7440</u>		Client Comments:	
E-Mail: <u>blohrum@teamues.com</u> Fax: <u> </u>			
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Project Name/Number <u>J044517.01</u>		Sample Collector's Name <u>Brad Lohrum</u>	
Results Requested <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <u> </u> <input type="checkbox"/> 3 Day (50% Surcharge)		Billing Instructions	
		# and Type of Containers	
		<input type="checkbox"/> UNPRES <input type="checkbox"/> HNO3 <input type="checkbox"/> NaOH <input type="checkbox"/> H2SO4 <input type="checkbox"/> HCL <input type="checkbox"/> MeOH <input type="checkbox"/> NaHSO4 <input type="checkbox"/> OTHER	
Lab Use Only		Sample Identification	
Date/Time Sampled			
<u>24011320041</u>		<u>AHL- 05</u>	
<u>042</u>		<u>AHL- 06</u>	
<u>043</u>		<u>07</u>	
<u>044</u>		<u>08</u>	
<u>045</u>		<u>09</u>	
<u>046</u>		<u>10</u>	
<u>047</u>		<u>11</u>	
<u>048</u>		<u>12</u>	
<u>049</u>		<u>13</u>	
<u>050</u>		<u>14</u>	
Relinquished By		Date/Time	
<u>Brad Lohrum</u>		<u>1/18/24</u>	
<u>RJ</u>		<u>1/19/24 10:00</u>	
Received By		Date/Time	
<u>RJ</u>		<u>1/18/24</u>	
<u>Mary Kamp</u>		<u>1/19/24 1000</u>	



CHAIN OF CUSTODY

pg. 36 of 74 Work order # 24011320

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

Client: Geotechnology, LLC
Address: 11816 Lackland Road
City / State / Zip: St. Louis, MO 63146
Contact: Brad Lohrum **Phone:** (314) 997-7440
E-Mail: blohrum@teamues.com **Fax:**

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE _____ °C LTG# _____
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? ☐ 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

Project Name/Number		Sample Collector's Name		MATRIX		INDICATE ANALYSIS REQUESTED																	
1044517.01		Brad Lohrum																					
Results Requested		Billing Instructions		# and Type of Containers								Drinking Water		Soil		Sludge		Special Waste		Groundwater		DW - Lead E200.8	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)				UNPRES HNO3 NaOH H2SO4 HCL MeOH NaHSO4 OTHER UNPRES																			
Lab Use Only	Sample Identification	Date/Time Sampled																					
24011320051	AHL- 15	1/12/24 5:54										X											
052	AHL- 16	5:55										X											
053	17	5:56										X											
054	18	5:57										X											
055	19	↓										X											
056	20	↓										X											
057	21	5:58										X											
058	22	5:59										X											
059	23	↓										X											
060	24	↓										X											

Relinquished By		Date/Time		Received By		Date/Time	
Brad Lohrum		1/18/24		R. J. K.		1/18/24	
R. J. K.		1/19/24 10:00		Mandy Kemp		1/19/24 1000	

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.

BottleOrder: 80481



February 12, 2024

Brad Lohrum
Geotechnology, Inc.
11816 Lackland Road
St. Louis, MO 63146
TEL: (314) 997-7440
FAX: (314) 997-2067



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

RE: J044517.01

WorkOrder: 24011321

Dear Brad Lohrum:

TEKLAB, INC received 60 samples on 1/19/2024 10:00:00 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: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-24

This reporting package includes the following:

Cover Letter	1
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Definitions	3
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Accreditations	6
Laboratory Results	7
Receiving Check List	9
Chain of Custody	Appended

Client: Geotechnology, Inc.**Work Order:** 24011321**Client Project:** J044517.01**Report Date:** 12-Feb-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: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-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: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-24

Cooler Receipt Temp: NA °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: Geotechnology, Inc.**Work Order:** 24011321**Client Project:** J044517.01**Report Date:** 12-Feb-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	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		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-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									
24011321-001A	AHL-25	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 3:03	01/12/2024 6:00
24011321-002A	AHL-26	NELAP		1.0	2.4	µg/L	1	02/09/2024 3:07	01/12/2024 6:01
24011321-003A	AHL-27	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 3:10	01/12/2024 6:01
24011321-004A	AHL-28	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 14:23	01/12/2024 6:02
24011321-005A	AHL-29	NELAP		1.0	< 1.0	µg/L	5	02/08/2024 13:15	01/12/2024 6:04
24011321-006A	AHL-30	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 14:34	01/12/2024 6:04
24011321-007A	AHL-31	NELAP		1.0	1.3	µg/L	1	02/03/2024 0:14	01/12/2024 6:04
24011321-008A	AHL-32	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 0:18	01/12/2024 6:05
24011321-009A	AHL-33	NELAP		1.0	1.4	µg/L	1	02/03/2024 0:22	01/12/2024 6:06
24011321-010A	AHL-34	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 0:25	01/12/2024 6:07
24011321-011A	AHL-35	NELAP		1.0	1.1	µg/L	1	02/03/2024 0:29	01/12/2024 6:08
24011321-012A	AHL-36	NELAP		1.0	1.4	µg/L	1	02/03/2024 0:33	01/12/2024 6:08
24011321-013A	AHL-37	NELAP		1.0	1.6	µg/L	1	02/03/2024 0:36	01/12/2024 6:09
24011321-014A	AHL-38	NELAP		1.0	1.2	µg/L	1	02/03/2024 0:40	01/12/2024 6:10
24011321-015A	AHL-39	NELAP		1.0	2.2	µg/L	1	02/03/2024 1:02	01/12/2024 6:10
24011321-016A	AHL-40	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:06	01/12/2024 6:11
24011321-017A	AHL-41	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:09	01/12/2024 6:11
24011321-018A	AHL-42	NELAP		1.0	1.6	µg/L	1	02/03/2024 1:13	01/12/2024 6:13
24011321-019A	AHL-43	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:17	01/12/2024 6:15
24011321-020A	AHL-44	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:20	01/12/2024 6:15
24011321-021A	AHL-45	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:24	01/12/2024 6:15
24011321-022A	AHL-46	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:28	01/12/2024 6:16
24011321-023A	AHL-47	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 1:31	01/12/2024 6:16
24011321-024A	AHL-48	NELAP		1.0	1.2	µg/L	1	02/09/2024 14:38	01/12/2024 6:16
24011321-025A	AHL-49	NELAP		1.0	1.1	µg/L	5	02/08/2024 13:19	01/12/2024 6:17
24011321-026A	AHL-50	NELAP		1.0	1.0	µg/L	5	02/08/2024 13:11	01/12/2024 6:17
24011321-027A	AHL-51	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 14:49	01/12/2024 6:18
24011321-028A	AHL-52	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 14:53	01/12/2024 6:18
24011321-029A	AHL-53	NELAP		1.0	1.4	µg/L	1	02/09/2024 15:07	01/12/2024 6:19
24011321-030A	AHL-54	NELAP		1.0	1.5	µg/L	1	02/09/2024 15:11	01/12/2024 6:20
24011321-031A	AHL-55	NELAP		1.0	1.2	µg/L	1	02/09/2024 15:15	01/12/2024 6:21
24011321-032A	AHL-56	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 15:18	01/12/2024 6:23
24011321-033A	AHL-57	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 15:22	01/12/2024 6:23
24011321-034A	AHL-58	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 15:26	01/12/2024 6:23
24011321-035A	FCS-08-2	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 15:29	01/15/2024 16:03
24011321-036A	FCS-09-2	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 4:37	01/15/2024 16:08
24011321-037A	SBE-01	NELAP		1.0	4.6	µg/L	1	02/09/2024 4:41	01/15/2024 22:24
24011321-038A	SBE-02	NELAP		1.0	7.8	µg/L	1	02/09/2024 4:44	01/15/2024 22:24
24011321-039A	SBE-03	NELAP		1.0	4.5	µg/L	1	02/09/2024 4:48	01/15/2024 22:24
24011321-040A	SBE-04	NELAP		1.0	< 1.0	µg/L	1	02/09/2024 4:52	01/15/2024 22:24
24011321-041A	SBE-05	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:29	01/15/2024 22:27
24011321-042A	SBE-06	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:33	01/15/2024 22:27
24011321-043A	SBE-07	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:37	01/15/2024 22:29
24011321-044A	SBE-08	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:41	01/15/2024 22:29
24011321-045A	SBE-09	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:45	01/15/2024 22:29
24011321-046A	SBE-10	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 6:49	01/15/2024 22:29
24011321-047A	SBE-11	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:06	01/15/2024 22:29
24011321-048A	SBE-12	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:35	01/15/2024 22:29



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-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									
24011321-049A	SBE-13	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:10	01/15/2024 22:31
24011321-050A	SBE-14	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:14	01/15/2024 22:31
24011321-051A	SBE-15	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:18	01/15/2024 22:32
24011321-052A	SBE-16	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:23	01/15/2024 22:32
24011321-053A	SBE-17	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:27	01/15/2024 22:32
24011321-054A	SBE-18	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:29	01/15/2024 22:33
24011321-055A	SBE-19	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 7:31	01/15/2024 22:36
24011321-056A	SBE-20	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:00	01/15/2024 22:36
24011321-057A	SBE-21	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:04	01/15/2024 22:37
24011321-058A	SBE-22	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:08	01/15/2024 22:37
24011321-059A	SBE-23	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:12	01/15/2024 22:38
24011321-060A	SBE-24	NELAP		1.0	< 1.0	µg/L	1	02/03/2024 8:16	01/15/2024 22:38



Receiving Check List

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

Client: Geotechnology, Inc.

Work Order: 24011321

Client Project: J044517.01

Report Date: 12-Feb-24

Carrier: Employee

Received By: MEK

Completed by:

On:

19-Jan-24

Mary E Kemp

Reviewed by:

On:

19-Jan-24

Ellie Hopkins

Pages to follow:

Chain of custody

6

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C

NA

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. - MaryKemp - 1/19/2024 11:23:21 AM

pg. 37 of 74 Work order # 24011321

Client: <u>Geotechnology, LLC</u> Address: <u>11816 Lackland Road</u> City / State / Zip <u>St. Louis, MO 63146</u> Contact: <u>Brad Lohrum</u> Phone: <u>(314) 997-7440</u> E-Mail: <u>blohrum@teamues.com</u> Fax: _____		Samples on: <input checked="" type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input checked="" type="checkbox"/> NO ICE <u>NA</u> °C LTG# _____ Preserved in: <input checked="" type="checkbox"/> LAB <input type="checkbox"/> FIELD FOR LAB USE ONLY Lab Notes Client Comments: 	
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Project Name/Number <u>JOH4517.01</u>		Sample Collector's Name <u>Brad Lohrum</u>	
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 	
		# and Type of Containers UNPRES HNO3 NaOH H2SO4 HCL MeOH NaHSO4 OTHER	
Lab Use Only		Sample Identification	
Date/Time Sampled		INDICATE ANALYSIS REQUESTED	
		MATRIX Drinking Water Soil Sludge Special Waste Groundwater DW - Lead E200.8	
34011321 001 AHL- 25 1/12/24 6:00		X X X X X X X	
002 AHL- 26 6:01		X X X X X X X	
003 27 +		X X X X X X X	
004 28 6:02		X X X X X X X	
005 29 6:04		X X X X X X X	
006 30		X X X X X X X	
007 31		X X X X X X X	
008 32 6:05		X X X X X X X	
009 33 6:00		X X X X X X X	
010 34 6:07		X X X X X X X	
Relinquished By		Date/Time	
Brad Lohrum		1/18/24	
K. J. Lohrum		1/19/24 10:00	
Received By		Date/Time	
R. J. Lohrum		1/18/24	
Mary Lohrum		1/19/24 1000	



pg. 39 of 74 Work order # 24011321

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

Client: Geotechnology, LLC	Samples on: <input type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input type="checkbox"/> NO ICE _____ °C LTG# _____
Address: 11816 Lackland Road	Preserved in: <input type="checkbox"/> LAB <input type="checkbox"/> FIELD <u>FOR LAB USE ONLY</u>
City / State / Zip St. Louis, MO 63146	Lab Notes
Contact: Brad Lohrum Phone: (314) 997-7440	Client Comments:
E-Mail: blohrum@teamues.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? ☐ 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]

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.

BottleOrder: 80481



CHAIN OF CUSTODY

pg. 40 of 74 Work order # 24011321

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

Client: Geotechnology, LLC Address: 11816 Lackland Road City / State / Zip: St. Louis, MO 63146 Contact: Brad Lohrum Phone: (314) 997-7440 E-Mail: blohrum@teamues.com Fax:	Samples on: <input checked="" type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input type="checkbox"/> NO ICE °C LTG# Preserved in: <input checked="" type="checkbox"/> LAB <input type="checkbox"/> 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? ☐ 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

Project Name/Number		Sample Collector's Name		MATRIX		INDICATE ANALYSIS REQUESTED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
J044517.01		Bred Lohrum																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Results Requested		Billing Instructions	# and Type of Containers								Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	DW - Lead E200.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

Relinquished By	Date/Time	Received By	Date/Time
Brad Lohrum	1/18/24	R. J. [Signature]	1/18/24
R. J. [Signature]	1/12/24 10:00	Mary [Signature]	1/19/24 1000

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.

BottleOrder: 80481





APPENDIX D

LIMITATIONS OF REPORT

ENVIRONMENTAL SAMPLING LIMITATIONS OF REPORT

1. The Report has been prepared on behalf of and for the exclusive use of the addressee, solely for use in documenting specific sample results. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of UES.
2. The sampling was performed in accordance with generally accepted practices of other consultants undertaking similar projects at the same time and in the same geographical area, and UES endeavored to observe that degree of care and skill ordinarily exercised by other consultants under similar circumstances and conditions. The findings and conclusions stated herein must be considered not as scientific certainties, but rather as professional opinions concerning the significance of the limited data gathered during the course of the project. UES does not and cannot represent that the site contains no hazardous waste or material, or other latent condition beyond that observed by UES.
3. In the event that information is developed relative to environmental or hazardous waste or material issues at the site and not contained in this report, such information shall be brought to UES' attention. UES will evaluate such information and, based on this evaluation, may modify the conclusions stated in this Report.
4. The conclusions and recommendations contained in this Report are based in part upon the data obtained from a limited number of water samples. The identified presence of contaminated water is limited to the extent that they could be identified by instrumentation and sampling and testing. There is a potential for contaminated water above the indicated concentrations to occur elsewhere on the site. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, and/or if changes are made in regulations, it will be necessary to reevaluate the conclusions and recommendations of this report.
5. If quantitative laboratory testing was performed as part of the assessment by an outside laboratory, UES has relied upon the data provided, and has not conducted an independent evaluation of the reliability to these data.
6. Chemical analyses have been performed for specific parameters during the course of this sampling as described in the text. Do not assume that a given analyte is not present at the site simply because it was not present at the test locations. The analyte may exist on the site where tests were not performed. In addition, it should be noted that additional chemical constituents not tested for during the sampling could be present in water at the site.