



WATER SAMPLING AND REPORTING SERVICES

**COLUMBIA PUBLIC SCHOOLS
DERBY RIDGE ELEMENTARY SCHOOL
4000 DERBY RIDGE DRIVE
COLUMBIA, MISSOURI**

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

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

Date:
AUGUST 7, 2024

Project No.:
J044517.01

**SAFETY
TEAMWORK
RESPONSIVENESS
INTEGRITY
VALUE
EXCELLENCE**



August 7, 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
Derby Ridge Elementary School
4000 Derby Ridge Drive
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 Derby Ridge Elementary School, located southeast of the intersection of East Smiley Lane and Derby Ridge 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 4 and 5, 2024, by Mr. Brad Lohrum, a Missouri-licensed lead risk assessor. Mr. Lohrum was assisted by Mr. Seth Lamble, a Missouri-licensed lead inspector. Copies of training certificates and lead licenses for Messrs. Lohrum 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. Copies of the drinking water sampling forms, which include a list of sample locations, and the times and dates of flushing and sampling activities, are included in Appendix B. A floor plan depicting approximate sample locations is included as Figure 1.

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 samples.

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

Sample Number / Location and Fixture Type	Results
DRE-09 / Room 225 Combo Sink – Left	5.5 ppb
DRE-11 / Room 223 Sink	15.8 ppb
DRE-14 / Room 225 Combo Sink – Right	10.9 ppb
DRE-16 / Room 221 Sink	5.5 ppb
DRE-18 / Room 221 Combo Bubbler – Left	5.7 ppb
DRE-29 / Room 210 Sink	7.0 ppb
DRE-47 / Room 112 Sink	12.5 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 outlets identified in Table 1 have either been removed, marked as non-potable, or have otherwise been taken out of service. Should these fixtures be put back into service following remediation activities, or if replacement fixtures are 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 Sampling Locations |
| 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 |

* * * * *

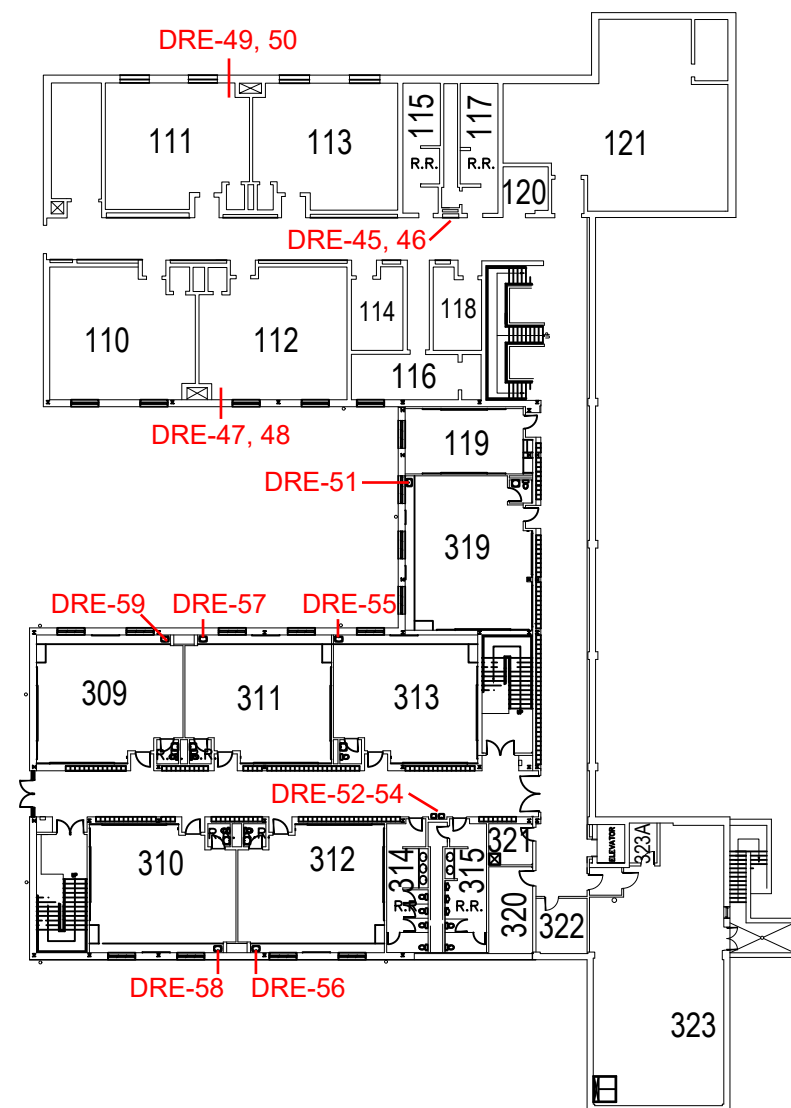
We appreciate the opportunity to provide our professional environmental consulting services to Columbia Public Schools on this project. If you have any questions or comments, please contact me at (314) 997-7440.

Very truly yours,

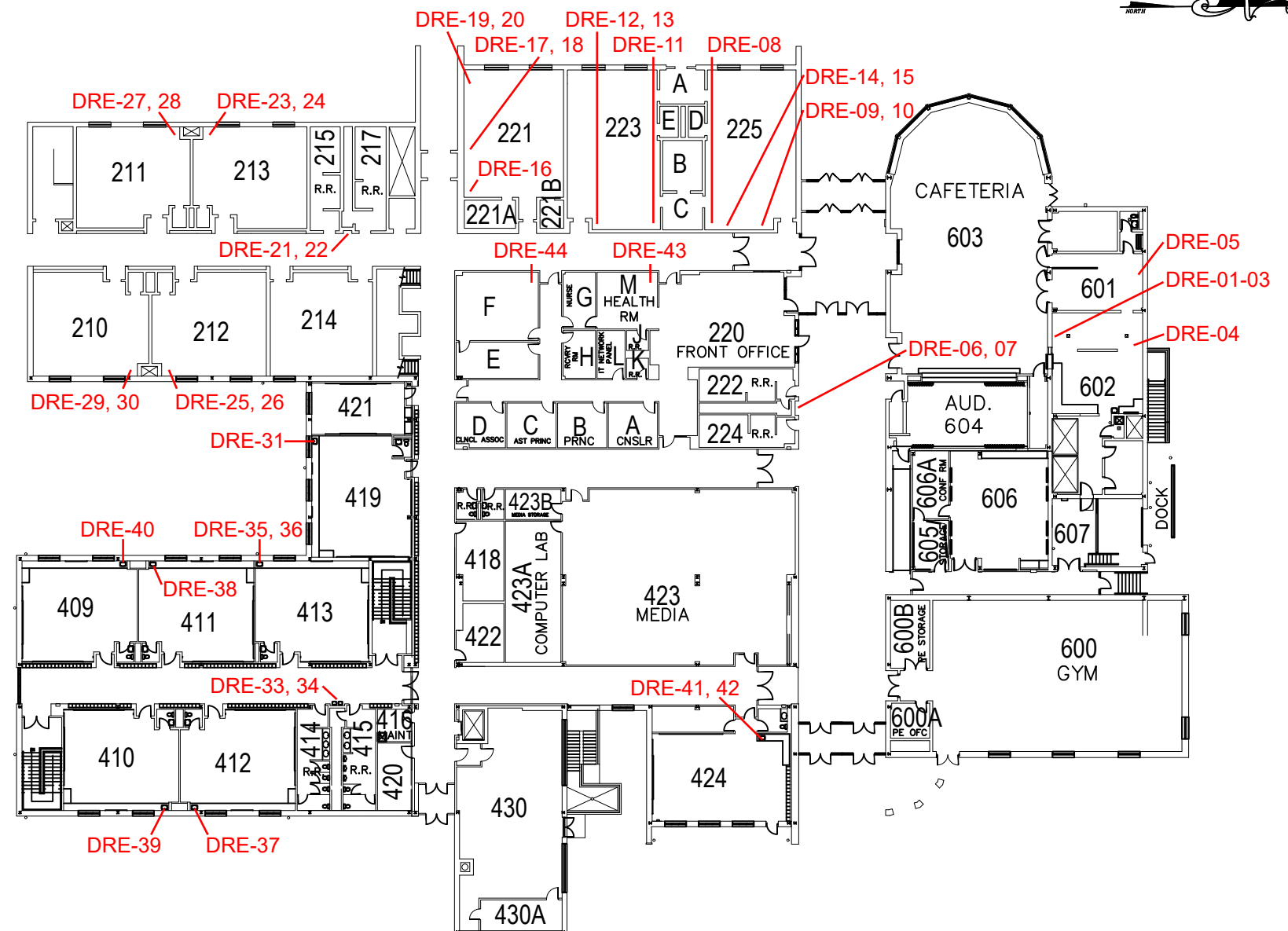
UES

Bradley J. Lohrum
Project Manager

BJL/MSR:bjl/jsj




GROUND FLOOR



FIRST FLOOR

NOTES

1. Drawing not to scale.
2. Drawing adapted from "Derby Ridge Elementary Floor Plan", provided by the client, dated 06/10/2022.
3. Sample locations were identified in the field relative to building features and are approximate only.

Drawn By: BJL	Ck'd By: BJL	App'vd By: MSR
Date: 8-7-24	Date: 8-7-24	Date: 8-7-24
		
4000 Derby Ridge Drive Columbia, Missouri		
DRINKING WATER SAMPLING LOCATIONS		
Project Number J044517.01	FIGURE 1	



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

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

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".

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: Derby Ridge Elementary

Project Number: J044517.01
Address: 4000 Derby Ridge Drive
Columbia, Missouri

Sample ID	Fixture Type	Location	Flushed By - Date - Time	Sampled By - Date - Time
DRE-01	S	Kitchen Dish Wash - Left	SPL - 1/4/24 - 16:23	SPL - 1/5/24 - 7:12
DRE-02	S	Kitchen Dish Wash - Center	SPL - 1/4/24 - 16:23	SPL - 1/5/24 - 7:12
DRE-03	S	Kitchen Dish Wash - Right	SPL - 1/4/24 - 16:23	SPL - 1/5/24 - 7:12
DRE-04	S	Kitchen Food Prep	SPL - 1/4/24 - 16:24	BJL - 1/5/24 - 7:12
DRE-05	ICE	Kitchen	BJL - 1/4/24 - 16:30	SPL - 1/5/24 - 7:12
DRE-06	WF	Hallway at Rooms 222/224 - Left	SPL - 1/4/24 - 16:32	SPL - 1/5/24 - 7:13
DRE-07	WF	Hallway at Rooms 222/224 - Right	SPL - 1/4/24 - 16:32	SPL - 1/5/24 - 7:13
DRE-08	S	Room 225	SPL - 1/4/24 - 16:35	SPL - 1/5/24 - 7:16
DRE-09	S	Room 225 Combo - Left	SPL - 1/4/24 - 16:36	SPL - 1/5/24 - 7:16
DRE-10	B	Room 225 Combo - Left	SPL - 1/4/24 - 16:36	SPL - 1/5/24 - 7:16
DRE-11	S	Room 223	SPL - 1/4/24 - 16:38	SPL - 1/5/24 - 7:19
DRE-12	S	Room 223 Combo - Right	SPL - 1/4/24 - 16:38	SPL - 1/5/24 - 7:20
DRE-13	B	Room 223 Combo - Right	SPL - 1/4/24 - 16:38	SPL - 1/5/24 - 7:20
DRE-14	S	Room 225 Combo - Right	SPL - 1/4/24 - 16:40	SPL - 1/5/24 - 7:17
DRE-15	B	Room 225 Combo - Right	SPL - 1/4/24 - 16:40	SPL - 1/5/24 - 7:17
DRE-16	S	Room 221	BJL - 1/4/24 - 16:42	SPL - 1/5/24 - 7:22
DRE-17	S	Room 221 Combo - Left	BJL - 1/4/24 - 16:42	SPL - 1/5/24 - 7:22
DRE-18	B	Room 221 Combo - Left	BJL - 1/4/24 - 16:42	SPL - 1/5/24 - 7:22
DRE-19	S	Room 221 Combo - Right	SPL - 1/4/24 - 16:42	SPL - 1/5/24 - 7:23
DRE-20	B	Room 221 Combo - Right	SPL - 1/4/24 - 16:42	SPL - 1/5/24 - 7:23
DRE-21	WF	Hallway at Rooms 215/217 - Left	SPL - 1/4/24 - 16:45	SPL - 1/5/24 - 7:24
DRE-22	WF	Hallway at Rooms 215/217 - Right	SPL - 1/4/24 - 16:45	SPL - 1/5/24 - 7:24
DRE-23	S	Room 213	SPL - 1/4/24 - 16:47	SPL - 1/5/24 - 7:25
DRE-24	B	Room 213	SPL - 1/4/24 - 16:47	SPL - 1/5/24 - 7:25
DRE-25	S	Room 212	SPL - 1/4/24 - 16:49	SPL - 1/5/24 - 7:26

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: Derby Ridge Elementary

Project Number: J044517.01
Address: 4000 Derby Ridge Drive
Columbia, Missouri

Sample ID	Fixture Type	Location	Flushed By - Date - Time	Sampled By - Date - Time
DRE-26	B	Room 212	SPL - 1/4/24 - 16:49	SPL - 1/5/24 - 7:26
DRE-27	S	Room 211	SPL - 1/4/24 - 16:51	SPL - 1/5/24 - 7:28
DRE-28	B	Room 211	SPL - 1/4/24 - 16:51	SPL - 1/5/24 - 7:28
DRE-29	S	Room 210	SPL - 1/4/24 - 16:52	SPL - 1/5/24 - 7:30
DRE-30	B	Room 210	SPL - 1/4/24 - 16:52	SPL - 1/5/24 - 7:30
DRE-31	S	Room 419	SPL - 1/4/24 - 16:54	SPL - 1/5/24 - 7:32
DRE-33	WF	Hallway at Rooms 414/415 - Left	SPL - 1/4/24 - 16:57	SPL - 1/5/24 - 7:36
DRE-34	WF	Hallway at Rooms 414/415 - Right	SPL - 1/4/24 - 16:57	SPL - 1/5/24 - 7:36
DRE-35	S	Room 413	SPL - 1/4/24 - 16:58	SPL - 1/5/24 - 7:37
DRE-36	B	Room 413	SPL - 1/4/24 - 16:58	SPL - 1/5/24 - 7:37
DRE-37	S	Room 412	SPL - 1/4/24 - 16:59	SPL - 1/5/24 - 7:38
DRE-38	S	Room 411	SPL - 1/4/24 - 17:00	SPL - 1/5/24 - 7:39
DRE-39	S	Room 410	SPL - 1/4/24 - 17:01	SPL - 1/5/24 - 7:40
DRE-40	S	Room 409	SPL - 1/4/24 - 17:02	SPL - 1/5/24 - 7:41
DRE-41	S	Room 424	SPL - 1/4/24 - 17:06	SPL - 1/5/24 - 7:43
DRE-42	B	Room 424	SPL - 1/4/24 - 17:06	SPL - 1/5/24 - 7:43
DRE-43	S	Health Room	BJL - 1/4/24 - 17:09	SPL - 1/5/24 - 7:45
DRE-44	S	Office F	SPL - 1/4/24 - 17:09	SPL - 1/5/24 - 7:46
DRE-45	WF	Hallway at Rooms 115/117 - Left	SPL - 1/4/24 - 17:13	SPL - 1/5/24 - 7:48
DRE-46	BF	Hallway at Rooms 115/117 - Right	SPL - 1/4/24 - 17:13	SPL - 1/5/24 - 7:48
DRE-47	S	Room 112	SPL - 1/4/24 - 17:17	SPL - 1/5/24 - 7:49
DRE-48	B	Room 112	SPL - 1/4/24 - 17:17	SPL - 1/5/24 - 7:49
DRE-49	S	Room 111	SPL - 1/4/24 - 17:18	BJL - 1/5/24 - 7:50
DRE-50	B	Room 111	SPL - 1/4/24 - 17:18	BJL - 1/5/24 - 7:50
DRE-51	S	Room 319	SPL - 1/4/24 - 17:21	SPL - 1/5/24 - 7:52

BF=Bottle Filling
B=Bubbler

FW=Filtered Water
ICE=Ice Machine

S=Classroom/Other Sink
WF=Water Fountain

Project Name: Columbia Public Schools Water Sampling and Reporting Services
Building Name: Derby Ridge Elementary

Project Number: J044517.01

Address: 4000 Derby Ridge Drive

Columbia, Missouri

[illegible]

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

January 29, 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: 24010448

Dear Brad Lohrum:

TEKLAB, INC received 61 samples on 1/5/2024 1:15:00 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,



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



Report Contents

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

Client: Geotechnology, Inc.

Work Order: 24010448

Client Project: J044517.01

Report Date: 29-Jan-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:** 24010448**Client Project:** J044517.01**Report Date:** 29-Jan-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: 24010448

Client Project: J044517.01

Report Date: 29-Jan-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: 24010448

Client Project: J044517.01

Report Date: 29-Jan-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: Geotechnology, Inc.**Work Order:** 24010448**Client Project:** J044517.01**Report Date:** 29-Jan-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		1/31/2024	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24010448

Client Project: J044517.01

Report Date: 29-Jan-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									
24010448-001A	CELN-49	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 12:09	01/05/2024 6:57
24010448-002A	CELN-50	NELAP		1.0	< 1.0	µg/L	5	01/26/2024 10:20	01/05/2024 6:57
24010448-003A	CELN-51	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 12:13	01/05/2024 6:58
24010448-004A	DRE-01	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 13:31	01/05/2024 7:12
24010448-005A	DRE-02	NELAP		1.0	2.0	µg/L	1	01/25/2024 12:17	01/05/2024 7:12
24010448-006A	DRE-03	NELAP		1.0	1.3	µg/L	1	01/25/2024 12:21	01/05/2024 7:12
24010448-007A	DRE-04	NELAP		1.0	4.9	µg/L	1	01/25/2024 12:25	01/05/2024 7:12
24010448-008A	DRE-05	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 13:02	01/05/2024 7:12
24010448-009A	DRE-06	NELAP		1.0	4.3	µg/L	1	01/25/2024 13:06	01/05/2024 7:13
24010448-010A	DRE-07	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 13:10	01/05/2024 7:13
24010448-011A	DRE-08	NELAP		1.0	2.2	µg/L	1	01/25/2024 14:24	01/05/2024 7:16
24010448-012A	DRE-09	NELAP		1.0	5.5	µg/L	1	01/25/2024 13:14	01/05/2024 7:16
24010448-013A	DRE-10	NELAP		1.0	2.9	µg/L	1	01/25/2024 13:18	01/05/2024 7:16
24010448-014A	DRE-11	NELAP		1.0	15.8	µg/L	1	01/25/2024 13:22	01/05/2024 7:19
24010448-015A	DRE-12	NELAP		1.0	2.8	µg/L	1	01/25/2024 13:26	01/05/2024 7:20
24010448-016A	DRE-13	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 13:55	01/05/2024 7:20
24010448-017A	DRE-14	NELAP		1.0	10.9	µg/L	1	01/25/2024 13:59	01/05/2024 7:17
24010448-018A	DRE-15	NELAP		1.0	2.1	µg/L	1	01/25/2024 14:03	01/05/2024 7:17
24010448-019A	DRE-16	NELAP		1.0	5.5	µg/L	1	01/25/2024 14:08	01/05/2024 7:22
24010448-020A	DRE-17	NELAP		1.0	4.3	µg/L	1	01/25/2024 14:12	01/05/2024 7:22
24010448-021A	DRE-18	NELAP		1.0	5.7	µg/L	1	01/25/2024 14:16	01/05/2024 7:22
24010448-022A	DRE-19	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 15:17	01/05/2024 7:23
24010448-023A	DRE-20	NELAP		1.0	3.8	µg/L	1	01/25/2024 14:20	01/05/2024 7:23
24010448-024A	DRE-21	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 14:49	01/05/2024 7:24
24010448-025A	DRE-22	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 14:53	01/05/2024 7:24
24010448-026A	DRE-23	NELAP		1.0	1.7	µg/L	1	01/25/2024 14:57	01/05/2024 7:25
24010448-027A	DRE-24	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 15:01	01/05/2024 7:25
24010448-028A	DRE-25	NELAP		1.0	2.3	µg/L	1	01/25/2024 15:05	01/05/2024 7:26
24010448-029A	DRE-26	NELAP		1.0	1.6	µg/L	1	01/25/2024 15:09	01/05/2024 7:26
24010448-030A	DRE-27	NELAP		1.0	3.1	µg/L	1	01/25/2024 15:13	01/05/2024 7:28
24010448-031A	DRE-28	NELAP		1.0	1.4	µg/L	1	01/25/2024 15:42	01/05/2024 7:28
24010448-032A	DRE-29	NELAP		1.0	7.0	µg/L	1	01/25/2024 15:46	01/05/2024 7:30
24010448-033A	DRE-30	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 15:50	01/05/2024 7:30
24010448-034A	DRE-31	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 15:54	01/05/2024 7:32
24010448-035A	DRE-33	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 15:58	01/05/2024 7:36
24010448-036A	DRE-34	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:04	01/05/2024 7:36
24010448-037A	DRE-35	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:02	01/05/2024 7:37
24010448-038A	DRE-36	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:07	01/05/2024 7:37
24010448-039A	DRE-37	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:11	01/05/2024 7:38
24010448-040A	DRE-38	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:15	01/05/2024 7:39
24010448-041A	DRE-39	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:19	01/05/2024 7:40
24010448-042A	DRE-40	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:35	01/05/2024 7:41
24010448-043A	DRE-41	NELAP		1.0	1.2	µg/L	1	01/25/2024 17:57	01/05/2024 7:43
24010448-044A	DRE-42	NELAP		1.0	1.9	µg/L	1	01/25/2024 16:39	01/05/2024 7:43
24010448-045A	DRE-43	NELAP		1.0	1.1	µg/L	1	01/25/2024 16:44	01/05/2024 7:45
24010448-046A	DRE-44	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:48	01/05/2024 7:46
24010448-047A	DRE-45	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:52	01/05/2024 7:48
24010448-048A	DRE-46	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 16:56	01/05/2024 7:48



Laboratory Results

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

Client: Geotechnology, Inc.

Work Order: 24010448

Client Project: J044517.01

Report Date: 29-Jan-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									
24010448-049A	DRE-47	NELAP		1.0	12.5	µg/L	5	01/26/2024 10:31	01/05/2024 7:49
24010448-050A	DRE-48	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:00	01/05/2024 7:49
24010448-051A	DRE-49	NELAP		1.0	3.5	µg/L	1	01/25/2024 17:29	01/05/2024 7:50
24010448-052A	DRE-50	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 18:51	01/05/2024 7:50
24010448-053A	DRE-51	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:33	01/05/2024 7:52
24010448-054A	DRE-52	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:37	01/05/2024 7:55
24010448-055A	DRE-53	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:41	01/05/2024 7:55
24010448-056A	DRE-54	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:45	01/05/2024 7:55
24010448-057A	DRE-55	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:49	01/05/2024 7:56
24010448-058A	DRE-56	NELAP		1.0	1.2	µg/L	1	01/25/2024 19:53	01/05/2024 7:56
24010448-059A	DRE-57	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 17:53	01/05/2024 7:57
24010448-060A	DRE-58	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 18:22	01/05/2024 7:58
24010448-061A	DRE-59	NELAP		1.0	< 1.0	µg/L	1	01/25/2024 18:26	01/05/2024 7:58



Receiving Check List

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

Client: Geotechnology, Inc.

Work Order: 24010448

Client Project: J044517.01

Report Date: 29-Jan-24

Carrier: Employee

Received By: NGR

Completed by:

Reviewed by:

On:

On:

05-Jan-24

05-Jan-24

Amber Dilallo

Ellie Hopkins

Pages to follow:

Chain of custody

7

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. - amberdilallo - 1/5/2024 3:10:50 PM

CHAIN OF CUSTODY

pg. 19 of 25 Work order # 24010448

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 N/A °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																
J044517.01		Brad Lohrum																				
Results Requested		Billing Instructions		# and Type of Containers		Aqueous	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)				UNRES HNO3 NaOH H2SO4 HCL MeOH NaHSO4 OTHER																		
Lab Use Only	Sample Identification	Date/Time Sampled																				
24010448-001	CELN-49	1/5/24	6:51			X						X										
002	50		6:57			X						X										
003	51		6:58			X						X										
004	DRE-01		7:12			X						X										
005	DRE-02					X						X										
006	03					X						X										
007	04					X						X										
008	05					X						X										
009	06		7:13			X						X										
010	07		7:13			X						X										

Relinquished By	Date/Time	Received By	Date/Time
Bradley	1/5/24 13:15	Mich Reed	1/5/24 1315

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. 20 of 25 Work order # 24010448

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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
J044517.01		Brad Lohrum				Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	DW - Lead E200.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

Relinquished By	Date/Time	Received By	Date/Time
Brad Lohrum	1/5/24 13:15	Mike Reed	1/5/24 13:15

CHAIN OF CUSTODY

pg. 21 of 25 Work order # 20010448

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																																	
J044517.01		Brad Lohrum																																					
Results Requested		Billing Instructions		# and Type of Containers								Aqueous		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																												
Lab Use Only	Sample Identification	Date/Time Sampled																																					
021	DRE-18	1/5/24 7:22										X																											
022	19	7:23										X																											
023	20	7:23										X																											
024	21	7:24										X																											
025	22	7:24										X																											
026	23	7:25										X																											
027	24	7:25										X																											
028	25	7:26										X																											
029	26	7:26										X																											
030	27	7:28										X																											
Relinquished By		Date/Time		Received By		Date/Time																																	
Bradley		1/5/24 13:15		mick Reif		1/5/24 13:15																																	

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. 22 of 25 Work order # 24010448

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:	

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

Lab Notes

Client Comments:

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]

BottleOrder: 80481



pg. 23 of 25 Work order # 24010448

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:	

Lab Notes

Client Comments:

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							Aqueous	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)																														
Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER																				
2401044f'	DRE- 39	1/5/24 7:40									X																			
O42	40	7:41									X																			
O43	41	7:43									X																			
O44	42	7:43									X																			
O45	43	7:45									X																			
O46	44	7:46									X																			
O47	45	7:48									X																			
O48	46	7:48									X																			
O49	47	7:49									X																			
O50	48	7:49									X																			
Relinquished By			Date/Time								Received By								Date/Time											
Bradley			1/5/24 13:15								Nick Reed								1/5/24 1315											



pg. 24 of 25 Work order # 24010448

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:	

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

Lab Notes

Client Comments:

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]

BottleOrder: 80481



pg. 25 of 25 Work order # 24010448

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:	

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

Lab Notes

Client Comments:

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]

Bottle Order: 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.