January 5, 2023

Ms. Lisa Dunning
Task Order Contracting Officer's Representative
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: Contract No. 68HERH19D0018; Task Order (TO) No. 68E0719F0190
Nevada Habilitation Site
East Edwards Street, Nevada, Vernon County, Missouri
Targeted Brownfields Assessment Hazardous Building Materials Survey

Dear Ms. Dunning:

Toeroek Associates, Inc. (Toeroek) and our teaming subcontractor, Tetra Tech, Inc. (Tetra Tech) (hereafter "Toeroek Team") are pleased to present the attached Hazardous Building Materials Survey of the Nevada Habilitation Site located on East Edwards Street in Nevada, Vernon County, Missouri. This deliverable has been reviewed internally as part of Tetra Tech's quality assurance program, as well as Toeroek's quality assurance program, and is consistent with Toeroek's Quality Management Plan for the Resource Conservation and Recovery Act (RCRA) Enforcement and Permitting Assistance (REPA) contract. Documentation of this review is retained in the Toeroek Team's project files.

If you have any questions or comments, please contact Greg Hanna at 720-898-4102 or Kaitlyn Mitchell at 816-412-1742.

Sincerely,

Gregory J. Hanna
Toeroek Team Program Manager

Kaitlyn Mitchell
Toeroek Team Project Manager

Enclosure: Hazardous Building Materials Survey

cc: Leanna Balsley, EPA Region 7
Heather Wood, Tetra Tech
Toeroek Team Project Files

300 Union Boulevard, Suite 520
Lakewood, CO 80228
Telephone: 303-420-7735
Fax: 303-420-7658

TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS BUILDING MATERIALS SURVEY

NEVADA HABILITATION SITE
EAST EDWARDS STREET
NEVADA, VERNON COUNTY, MISSOURI

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7

Task Order	:	68E0719F0190
Subtask	:	11.05
EPA Region	:	7
Date Prepared	:	January 5, 2023
Contract No.	:	68HERH19D0018
Prepared by	:	Toeroek Associates, Inc.
Project Manager	:	Kaitlyn Mitchell
Telephone	:	816-412-1742
EPA TOCOR	:	Lisa Dunning
Telephone	:	913-551-7964

CONTENTS

TABLES

APPENDICES

Appendix

FIGURES (in Appendix A)

Figures

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Toeroek Associates, Inc. (Toeroek) and its teaming subcontractor, Tetra Tech, Inc., (hereafter "Toeroek Team") with providing technical support to the EPA Region 7 Brownfields Program under Contract 68HERH19D0018, Task Order 68E0719F0190. EPA Region 7 requested the Toeroek Team conduct a Hazardous Building Materials Survey (Survey) as part of a Targeted Brownfields Assessment of the Nevada Habilitation Site on a portion of East Edwards Street in Nevada, Vernon County, Missouri (the Site) (Appendix A, Figure 1).

The Site includes a parking lot, green space, a portion of East Edwards Street, and one 400-square-foot restroom building. According to the Site contact, Mr. Brian Vickers, Director of Vernon County Economic Development, an extensive underground utility tunnel system exists under the Site (Toeroek Team 2022a). The scope of the Survey included an inspection of the restroom building and underground utility tunnel system for the presence of asbestos-containing materials (ACM), polychlorinated biphenyls (PCB) in caulk, and lead-based paint (LBP). The underground utility tunnels were not accessible at the time of the inspection, as such samples were not collected from the inaccessible underground utility tunnels. Further, the Toeroek Team inventoried containerized hazardous waste (HW) and other hazardous materials as part of the Survey. In addition, the Toeroek Team conducted a Phase II Environmental Site Assessment, submitted under separate cover. Appendix B includes a photolog of observations during the Survey.

The Toeroek Team conducted the Survey on October 26, 2022. The Toeroek Team's Project Manager for the Survey was Ms. Kaitlyn Mitchell. Mr. Zach Usher, State of Missouri-licensed Asbestos and Lead Inspector, was the field team leader for the Survey. Inspector certifications are in Appendix C. Because of limitations of destructive sampling methods, additional suspect materials may be present within walls, voids, or other concealed areas. Section 11.0 specifies assumptions and deviations regarding the Survey at the Site. Prior to any renovations or demolition of the restroom building, further building material characterization may be needed to comply with all local, state, and federal requirements regulating ACM, LBP, PCBs, or HW.

The purpose of the asbestos portion of the Survey was to evaluate the restroom building for the presence, quantity, locations, and condition of ACM that may require abatement prior to any development activities, in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as adopted by EPA. The intent of the asbestos NESHAP regulations is to protect the public and workers by minimizing release of asbestos fibers during activities involving processing, handling, and

disposal of ACM. Inhalation of asbestos fibers can cause cancer and other lung diseases (Agency for Toxic Substances and Disease Registry [ATSDR] 2016). The Survey accorded with industry standard practice for hazardous building materials surveys. Collection of samples of suspected ACM accorded with NESHAP regulations as adopted by EPA.

The Toeroek Team screened for the presence, quantity, locations, and condition of LBP exceeding lead hazard levels, which would require Occupational Safety and Health Administration (OSHA) worker safety precautions during development activities. According to the Site contact, Mr. Vickers, the restroom building may have been constructed in the 1970s or 1980s (Toeroek Team 2022a). Because the restroom building may have been built before 1978, building surfaces may contain LBP. The LBP portion of the Survey proceeded according to protocols similar to the single-family housing inspection procedures in U.S. Department of Housing and Urban Development (HUD) guidelines (HUD 2012). The Toeroek Team screened paint-covered surfaces using an x-ray fluorescence (XRF) spectrometer.

Because the restroom building may have been built before 1979, PCBs may be present within the restroom building in caulk associated with windows, doors, and masonry columns. The Toeroek Team collected samples from caulk materials suspected to contain PCBs for laboratory analysis to determine presence, quantity, and locations of PCBs exceeding the EPA action level, which would require OSHA worker safety precautions during the development of remodeling activities.

As part of the Survey, the Toeroek Team completed an inventory of HW and other hazardous materials within the restroom building.

The Toeroek Team submitted a site-specific Quality Assurance Project Plan (QAPP) in support of Survey activities to EPA on June 21, 2022; EPA approved the QAPP with comment via email on July 27, 2022. The final QAPP, including response to EPA comments, was submitted to EPA on August 11, 2022, prior to field mobilization to the Site (Toeroek Team 2022b). Field activities accorded with the QAPP, except where noted in Section 11.0.

The Toeroek Team prepared this report in accordance with generally accepted industrial hygiene practices and procedures. This report does not cover or comment on structural areas not assessed either visibly or by sample collection. The data evaluation and assessment stated herein constitute a professional opinion; no other warranty is expressed or implied. Section 11.0 specifies assumptions and deviations regarding the Survey at the Site.

The Toeroek Team provided these services consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. This statement is in lieu of other statements either expressed or implied. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document, the findings, conclusions, or recommendations is at the risk of said user. This Survey report does not warrant against future operations or conditions that may not be consistent with its recommendations. Moreover, because of some limitations on destructive sampling during the Survey, completion of the Survey does not guarantee identification of all ACMs or PCBs—hazardous materials may be present in voids of walls or ceilings, or other concealed areas.

This report consists of the following sections:

- Section 2.0 of this report, Site Building, describes the restroom building.
- Section 3.0, ACM Field Survey and Analytical Protocols, specifies the field and analytical protocols for the ACM survey.
- Section 4.0, LBP Screening and Analytical Protocols, specifies field and analytical protocols for the LBP screening.
- Section 5.0, PCB Field Survey and Analytical Protocols, specifies field and analytical protocols for the PCB survey.
- Section 6.0, Hazardous Waste and Other Hazardous Materials Inventory, specifies field protocols for the HW and hazardous materials inventory.
- Section 7.0, ACM Findings, presents the results of the ACM survey activities.
- Section 8.0, LBP Findings, describes the results of the LBP screening activities.
- Section 9.0, PCB findings, conveys the results of the PCB survey activities.
- Section 10.0, Findings and Recommendations, offers recommendations based on the results of the survey.
- Section 11.0, Assumptions and Deviations, specifies the assumptions and deviations regarding the survey of the subject property building.
- Section 12.0, References, lists the sources referenced during development of this report.

2.0 SITE BUILDING

The Site includes a parking lot, green space, a portion of East Edwards Street, a restroom building, and an underground utility tunnel system (Toeroek Team 2022a). The 400-square-foot restroom building is constructed of brick and concrete. Interior finishes include concrete walls and floors and a drywall ceiling. The roofing material consists of tar and gravel. The underground utility tunnel system was not accessible at the time of the inspection due to structural safety concerns. As such, the underground utility tunnel system was not sampled as part of the Survey.

3.0 ACM FIELD SURVEY AND ANALYTICAL PROTOCOLS

The Toeroek Team made every effort to inspect all interior areas of the restroom building. Minor demolition of materials (destructive sampling) was required during the Survey effort. The inspector took care to ensure that the Site remained unoccupied during sample collection. Collection of suspect ACM samples accorded with NESHAP, as adopted by EPA, and Asbestos Hazard and Emergency Response Act of 1986 (AHERA) protocols. AHERA defines "asbestos-containing material" (ACM) as any material or product that contains more than 1 percent asbestos. Suspected ACMs were grouped as homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided a material (for example, wall texturing) was not similar in appearance and texture to other materials in the restroom building, the inspector distinguished the material as unique and collected samples of each unique material accordingly. Because of limitations on destructive sampling methods, additional suspect materials may be present in walls, voids, or other concealed areas. Section 11.0 specifies assumptions and deviations regarding the Survey of the restroom building.

Bulk samples of suspect ACM were collected to ensure that each distinct layer of material was represented in the sample. A wetting agent was applied to friable surfaces prior to sample collection to reduce potential for fiber release. All samples collected were placed in plastic bags, labeled, and sealed immediately upon collection. A unique sample identification number was assigned to each sample. To prevent cross-contamination between samples, the sampling instruments were wiped clean by use of a wet, lint-free cloth after collection of each sample.

The samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the bulk samples were sent, along with the Toeroek Team's chain-of-custody documentation, to Eurofins EMLab P&K Laboratories (Eurofins). Suspect ACM samples were analyzed per EPA Method 600/R-93/116 by Eurofins via polarized light microscopy (PLM) analysis. Samples determined by PLM analysis to contain less than 1 percent asbestos were analyzed via EPA Point Count 400 (EPA Method 600/R-93/116). Eurofins is a National Voluntary Laboratory Accreditation Program (NVLAP)-certified laboratory. Section 7.0 of this report summarizes ACM analytical results, which are listed in Table 1. Sample locations are shown on Figure 2 in Appendix A. Appendix D presents ACM analytical results and chain-of-custody forms for the bulk samples.

4.0 LBP SCREENING AND ANALYTICAL PROTOCOLS

The Toeroek Team made every effort to inspect all areas of the restroom building. HUD (*Guidelines for the Evaluation and Control of LBP in Housing* [2012]) (HUD Guidelines) suggests that paint applied before 1978 could contain lead.

An XRF screening of suspected LBP proceeded according to protocols similar to the single-family housing inspection procedures in the HUD Guidelines. The Toeroek Team utilized a Viken Detection PB200I analyzer to perform the LBP screening. The Viken Detection PB200I is an XRF spectrum analyzing system for quantitative measurement of lead in paint on various substrates. The Toeroek Team performed XRF screening of suspect painted surfaces with potential to be impacted during renovation or demolition activities.

The Toeroek Team utilized the XRF "Lead Paint Mode" for testing, standardized per the equipment instruction manual, and programmed the unit with an action level of 1.0 milligram per square centimeter (mg/cm^2). Paint containing greater than or equal to 1.0 mg/cm^2 lead by XRF testing or 1.0 mg/cm^2 lead by laboratory analysis is considered LBP.

The Toeroek Team performed XRF calibration checks on the Viken Detection PB200I spectrometer according to recommended protocol by the manufacturer and HUD Guidelines. These quality control readings were referenced to monitor performance of the Viken Detection PB200I spectrometer. Calibration-check readings were taken at the beginning and end of operation from a Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST). Section 8.0 of this report summarizes results from XRF screening of samples of painted surfaces collected at the Site. Table 2 provides XRF screening results.

5.0 PCB FIELD SURVEY AND ANALYTICAL PROTOCOLS

The Toeroek Team made every effort to inspect all areas of the restroom building. Minor demolition of materials (destructive sampling) was required during the Survey effort. The inspector took care to ensure the areas remained unoccupied during sample collection. Samples of caulk possibly containing PCBs were collected following EPA guidance. EPA has set an action level of 50 parts per million (ppm) for PCBs in materials, which was the benchmark used for the Survey (EPA 2022). Suspect PCB-containing caulk materials were grouped as homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided a material was not similar in appearance and texture to other materials in the restroom building, or a material was associated with a different building construction date, the inspector distinguished the material as unique and collected samples of each unique material accordingly. Section 11.0 specifies assumptions and deviations regarding the Survey at the restroom building.

Bulk samples were collected to ensure only suspect PCB-containing caulk materials were represented in the sample. A wetting agent was applied to the material prior to sample collection to reduce potential for particulate release. All samples collected were placed in plastic bags, labeled, and sealed immediately upon collection. A unique sample identification number was assigned to each sample to prevent cross-contamination between samples, and sampling instruments were wiped clean by use of a wet, lint-free cloth after collection of each sample.

The samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the bulk samples were sent, along with the Toeroek Team's chain-of-custody documentation, to Pace Analytical (Pace) laboratory in Lenexa, Kansas. Bulk samples of suspect PCB-containing caulk materials were analyzed via EPA Method 8082. Appendix E includes PCB analytical results and chain-of-custody forms for those bulk samples. Section 9.0 summarizes analytical results from these samples, which are listed in Table 3.

6.0 HAZARDOUS WASTE AND OTHER HAZARDOUS MATERIALS INVENTORY

The Toeroek Team identified four light fixtures likely containing fluorescent bulbs, three inside the restroom building and one on the exterior. No other HW or hazardous materials were identified in the restroom building during the inspection.

7.0 ACM FINDINGS

PLM results from samples of suspect ACM collected at the restroom building are in the laboratory report in Appendix D and summarized in Table 1 below. Bolded results in Table 1 indicate where asbestos was detected at concentration greater than 1 percent. Sample locations are shown on Figure 2 in Appendix A.

TABLE 1

SUMMARY OF RESULTS FROM LABORATORY ANALYSIS FOR SUSPECT ACM
NEVADA HABILITATION SITE, NEVADA, MISSOURI

Figure Key	Sample ID	Material Description	Material Locations	Friable/ Non-Friable	Analytical Result (% ACM*)	Quantity***
1	**NH-RT-01**	**Roofing Tar**	**Roof**	**NF**	**10% Chrysotile**	**150 SF**
2	**NH-RT-02****					
3	**NH-RT-03****					
4	NH-DW-01	Drywall	Restroom Ceiling	F	ND	NA
5	NH-DW-02					
6	NH-DW-03					
7	NH-CLK-01	White Caulk	Exterior Doors	NF	ND	NA
8	NH-CLK-02					
9	NH-CLK-03					

Notes:

Bolded result indicates detection of ACM.

Color description of a material may vary between field observation and laboratory description.

* AHERA defines ACM as any material or product that contains more than 1% asbestos.

** Sample not analyzed due to prior ACM positive results.

*** Quantities for non-ACM materials are not required.

ACM	Asbestos-containing material
AHERA	Asbestos Hazard and Emergency Response Act of 1986
F	Friable
ID	Identification
NA	Not applicable
ND	Not detected
NF	Non-friable
SF	Square Feet

8.0 LBP FINDINGS

A summary of screening results for LBP by use of the XRF spectrometer at the restroom building appears in Table 2 below.

TABLE 2

SUMMARY OF LBP SCREENING RESULTS
NEVADA HABILITATION SITE, NEVADA, MISSOURI

XRF Screening No.	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Quantity*
Calibration Blank					0.1/0.1/0.1	NA	NA
Calibration Standard					1.0/1.0/1.1	NA	NA
1	White	Men's Restroom	Wall	Concrete Masonry Unit	0.5	NA	NA
2	Brown	Men's Restroom	Door	Metal	0.1	NA	NA
3	Brown	Men's Restroom	Doorframe	Metal	0.3	NA	NA
4	White	Women's Restroom	Ceiling	Drywall	0.0	NA	NA
5	White	Exterior	Soffit	Wood	0.3	NA	NA
6	White	Exterior	Roof Fascia	Metal	0.2	NA	NA
Calibration Standard					1.1/1.0/1.1	NA	NA

Notes:

Bolded result indicates detection of LBP.

* Quantities of non-LBP are not required.

mg/cm^2 Milligrams per square centimeter
LBP Lead-based paint
NA Not applicable
No. Number
XRF X-ray fluorescence

9.0 PCB FINDINGS

The laboratory report in Appendix E conveys analytical results from bulk samples of suspect PCB-containing caulk materials. The results are summarized in Table 3 below. The sample location is shown on Figure 2 in Appendix A.

TABLE 3

SUMMARY OF PCB FINDINGS
NEVADA HABILITATION SITE, EAST EDWARDS STREET, NEVADA, MISSOURI

Figure Key	Sample ID	Material Description	Material Locations	Analytical Result (ppm)	Quantity
P-1	PCB-1	White Caulk	Exterior Doors	ND	NA

Notes:

ID Identification
NA Not applicable
ND Not detected
PCB Polychlorinated biphenyl
ppm Parts per million

10.0 FINDINGS AND RECOMMENDATIONS

The following findings and recommendations are based on observations during the Survey and analytical results from samples collected in the restroom building:

10.1 ACM

Regulated ACM was identified in roofing tar (approximately 150 square feet) on the roof of the restroom building. All regulated ACM should be removed by a licensed asbestos abatement contractor before demolition work disturbs the material. The removed waste must be transported to a disposal site approved to accept non-friable ACM. If the restroom building is to be renovated, the above ACM materials are not to be disturbed and may remain in place.

10.2 LBP

XRF readings indicated no screened building materials contained LBP. HUD considers LBP as paint with lead levels greater than or equal to 1.0 mg/cm^2.

10.3 PCB

Laboratory results indicated no sampled building materials contained concentrations of PCBs exceeding 50 ppm; no PCBs were detected in the restroom building.

10.4 HW AND HAZARDOUS MATERIALS

Four light fixtures likely containing fluorescent bulbs were observed, three inside the restroom building and one on the exterior. The Toeroek Team recommends proper disposal of the materials based on their characteristics prior to demolition of the restroom building.

11.0 ASSUMPTIONS AND DEVIATIONS

The Toeroek Team inspected the interior and exterior of the restroom building for suspect ACM, LBP, and PCB-containing caulk. Because of limitations on destructive sampling methods, additional suspect materials may be present but not detected in walls, voids, or other inaccessible areas. All other areas of the restroom building were inspected. The underground utility tunnels were not accessible at the time of the inspection due to structural safety concerns. Therefore, the underground utility tunnel system was not included in the Survey.

12.0 REFERENCES

Agency for Toxic Substance and Disease Registry (ATSDR). 2016. Asbestos: Health Effects. Accessed October 22, 2020. https://www.atsdr.cdc.gov/asbestos/health_effects_asbestos.html

Toeroek Associates, Inc. and Tetra Tech Inc. (Toeroek Team). 2022a. Phase I Environmental Site Assessment. Nevada Habilitation Site. East Edwards Street, Vernon County, Nevada, Missouri. February 4.

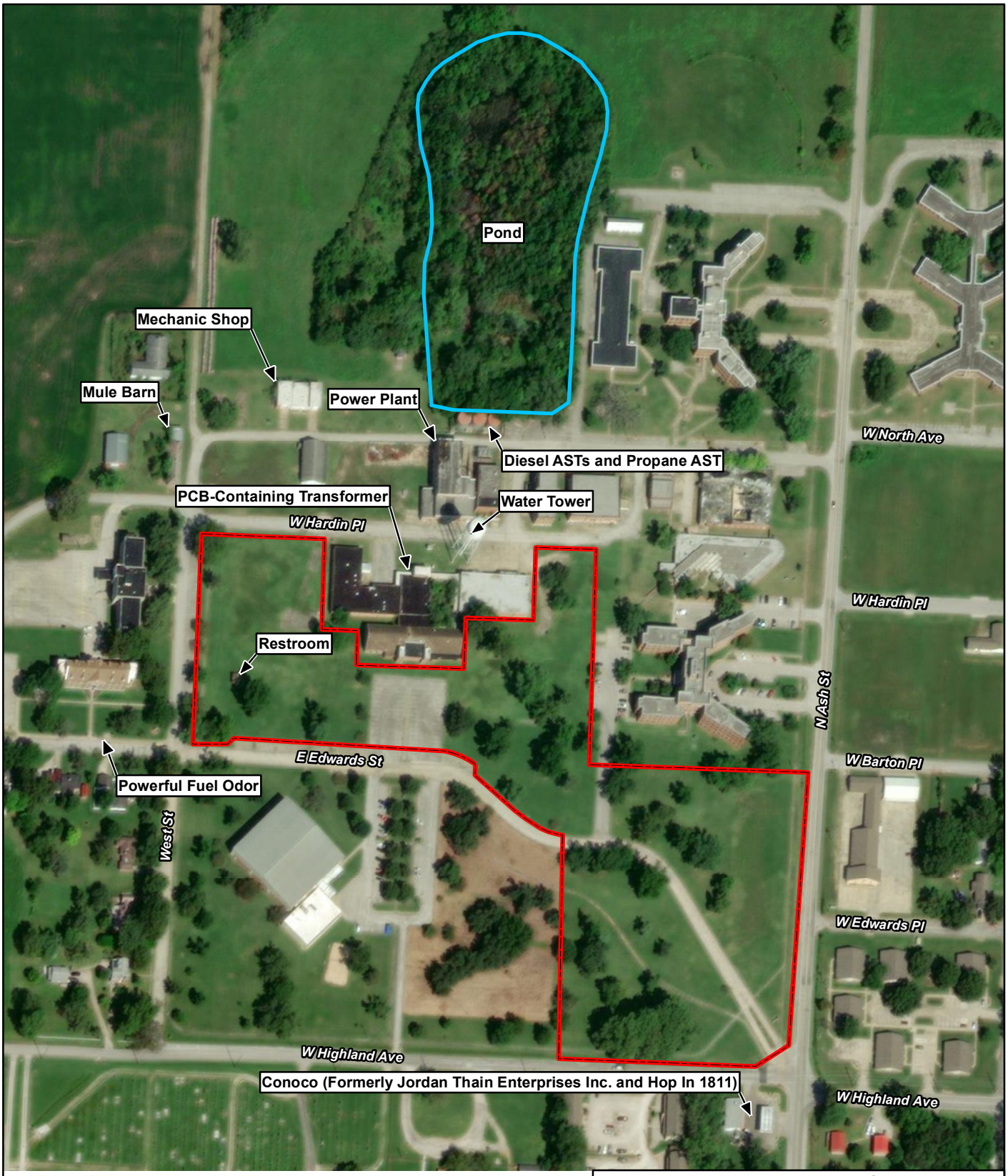
Toeroek Associates, Inc. and Tetra Tech Inc. (Toeroek Team). 2022b. Quality Assurance Project Plan, Phase II Environmental Site Assessment, Nevada Habilitation Site, East Edwards Street, Nevada, Vernon County, Missouri. August 9.

U.S. Department of Housing and Urban Development (HUD). 2012. *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

U.S. Environmental Protection Agency (EPA). 2022. How to Test for PCBs and Characterize Suspect Materials. Accessed May 20. https://www.epa.gov/pcbs/how-test-pcbs-and-characterize-suspect-materials

APPENDIX A

FIGURES



Legend

- Approximate subject site boundary
- Pond
- AST Aboveground storage tank
- PCB Polychlorinated biphenyl

N

0 140 280

Feet

Source: Esri, ArcGIS Online, World Imagery, 2018

Nevada Habilitation Site
East Edwards Street
Nevada, Missouri

Figure 1
Site Layout Map

TETRA TECH

TOEROEK ASSOCIATES, INC.

Date: 1/4/2023 Drawn By: Nick Wiederholt Project No: 103G65210190.011.03

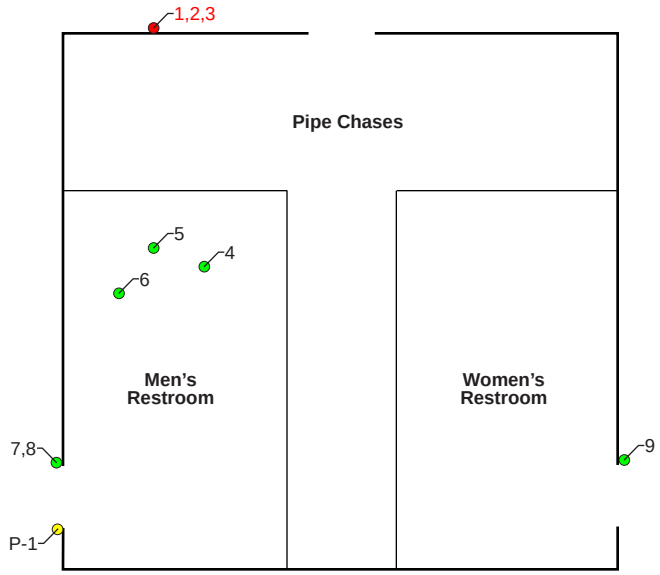
X:\P\65210190\011\Projects\mxd\Figure1_report.mxd

Sample Key Table

Key	Sample No.
Asbestos	
1	NH-RT-01
2	NH-RT-02
3	NH-RT-03
4	NH-DW-01
5	NH-DW-02
6	NH-DW-03
7	NH-CLK-01
8	NH-CLK-02
9	NH-CLK-03
PCB	
P-1	PCB-1

Note: Red text indicates positive asbestos results.

Restroom Building



Legend

- Asbestos-containing material sample location
- Non-asbestos-containing material sample location
- Polychlorinated biphenyl sample location

N

Not to Scale

Nevada Habilitation Site
East Edwards Street
Nevada, Missouri

Figure 2
Sample Location Map

TETRA TECH

TOEROEK ASSOCIATES, INC.

Date: 11/15/2022 Drawn By: Nick Wiederholt Project No: 103G65210190.011.05

X:\P\65210190\011\H10\Figure_2.FH10

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

Hazardous Materials Survey
Photographic Documentation Log
Nevada Habilitation Site, Nevada, Missouri

SUBTASK NO. 011.05	DESCRIPTION	This photograph shows the restroom building.	1
	CLIENT	U.S. Environmental Protection Agency (EPA)	Date: 10/26/22
Direction: East	PHOTOGRAPHER	Zach Usher	

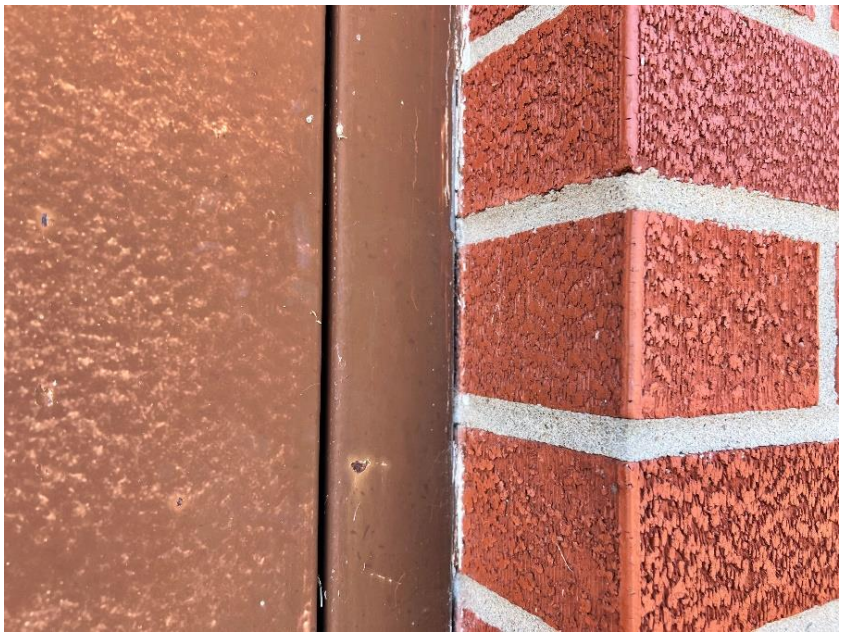
SUBTASK NO. 011.05	DESCRIPTION	This photograph shows the asbestos-containing roofing tar on the restroom building.	2
	CLIENT	EPA	Date: 10/26/22
Direction: South	PHOTOGRAPHER	Zach Usher	

Hazardous Materials Survey
Photographic Documentation Log
Nevada Habilitation Site, Nevada, Missouri

SUBTASK NO. 011.05	DESCRIPTION	This photograph shows the drywall ceiling inside the restroom building.	3
	CLIENT	EPA	Date: 10/26/22
Direction: Not Applicable (N/A)	PHOTOGRAPHER	Zach Usher	

SUBTASK NO. 011.05	DESCRIPTION	This photograph shows concrete walls and floor inside the restroom building.	4
	CLIENT	EPA	Date: 10/26/22
Direction: N/A	PHOTOGRAPHER	Zach Usher	

Hazardous Materials Survey
Photographic Documentation Log
Nevada Habilitation Site, Nevada, Missouri



SUBTASK NO. 011.05	DESCRIPTION	This photograph shows white caulk on a metal doorframe on the exterior of the restroom building.	5
	CLIENT	EPA	Date: 10/26/22
Direction: N/A	PHOTOGRAPHER	Zach Usher	

SUBTASK NO. 011.05	DESCRIPTION	This photograph shows wooden soffit on the exterior of the restroom building.	6
	CLIENT	EPA	Date: 10/26/22
Direction: East	PHOTOGRAPHER	Zach Usher	

APPENDIX C

INSPECTOR CERTIFICATIONS

Missouri Department of Health and Senior Services

Lead Occupation License - ID Badge

License Number:

191209-300005920

Lead Risk Assessor

Zachary
Usher

Expiration Date: 1/10/2024

MISSOURI DEPARTMENT OF NATURAL RESOURCES

CERTIFICATION NUMBER:
7011092922MOIR18920

THIS CERTIFIES
Zachary S Usher

HAS COMPLETED THE CERTIFICATION REQUIREMENTS FOR
Inspector

APPROVED: **10/17/2022**
EXPIRES: **10/17/2023**

TRAINING DATE: **09/29/2022**

Director of Air Pollution Control Program

October 14, 2022

Zachary S Usher
401 E 19th St Apt 1415
Kansas City, MO 64108

RE: **Missouri Asbestos Occupation Certification Card**

Enclosed is your certification card for Asbestos Inspector, as issued by the Asbestos Unit of the Missouri Department of Natural Resources' Air Pollution Control Program.

Missouri Certification Number: 7011092922MOIR18920
Course Training Date: September 29, 2022
Missouri Certification Approval Date: October 17, 2022
Missouri Certification Expiration Date: October 17, 2023

Note:

- All Missouri-certified asbestos personnel must comply with the following statutes and regulations:
  - Sections 643.225 to 643.250, RSMo;
  - 10 CSR 10-6.241 *Asbestos Projects-Registration, Abatement, Notification, Inspection, Demolition, and Performance Requirements; and*
  - 10 CSR 10-6.250 *Asbestos Projects-Certification, Accreditation and Business Exemption Requirements.*
- To keep your occupation certification up-to-date, you must complete an annual refresher course and submit a renewal application each year.
- In order to be eligible to renew your certification, you must successfully complete a refresher course with a Missouri-accredited training provider within 12 months of the expiration date of your current training certificate. If you exceed this grace period, you will be required to retake a Missouri-accredited initial course in order to be eligible for Missouri certification.

To obtain a copy of the certification renewal application, or review regulations and requirements, please visit our website at http://dnr.mo.gov/env/apcp/asbestos/index.htm.

If you have any questions please call the Air Pollution Control Program at 573-751-4817.

AIR POLLUTION CONTROL PROGRAM

Director of Air Pollution Control Program

APPENDIX D

ACM ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

CHAIN OF CUSTODY

www.EMLabPK.com

EMLab P&K
A TestAmerica Company

New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 * (866) 871-1964
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 * (800) 651-4802
SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 * (866) 888-6653

Pg 1 of 1

003069423

ASBESTOS

REQUESTED SERVICES (Check boxes below)

CONTACT INFORMATION			
Company:	Tetra Tech, Inc.	Address: 415 Oak Street, Kansas City, MO 64106	
Contact:	Kaitlyn Mitchell	Special Instructions: Stop on 1st Positive	
Phone:	(816) 412-1742		

PROJECT INFORMATION				TURN AROUND TIME CODES (TAT)	
Project ID:	103G65210190.011.05			STD – Standard (DEFAULT)	Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Description:	Nevada Habilitation			ND – Next Business Day	
Project Zip	64722	Sampling Date & Time:	10/26/22	SD – Same Business Day Rush*	
PO Number:		Sampled By:	Zach Usher	*Please call Client Services for locations with Rush services	

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume (Air Samples only)	Notes	PCM Air: Fiber Count (NIOSH 7400)	PCM Air: OSHA with TWA	PLM Bulk: EPA Method 600/R-93/116	PLM Bulk: EPA Point Count (200 Point Count)	PLM Bulk: EPA Point Count (400 Point Count)	PLM Bulk: EPA Point Count (1000 Point Count)	PLM Bulk: Gravimetric Point Count	PLM Rock & Soil: CARB 435 Method (Pre-crushed Sample)	PLM Rock & Soil: CARB 435 Method (Regular Sample)	Other Requests: Lead Analysis	Other Requests	Other Requests
NH-RT-01	Roofing	B	STD	NA	Stop on 1st Positive			X									
" -02	"	B	STD	NA	Stop on 1st Positive			X									
" -03	"	B	STD	NA	Stop on 1st Positive			X									
-DW-01	Drywall	B	STD	NA	Stop on 1st Positive			X									
" -02	"	B	STD	NA	Stop on 1st Positive			X									
" -03	"	B	STD	NA	Stop on 1st Positive			X									
-CLK-01	Caulk	B	STD	NA	Stop on 1st Positive			X									
" -02	"	B	STD	NA	Stop on 1st Positive			X									
" -03	"	B	STD	NA	Stop on 1st Positive			X									
		B	STD	NA	Stop on 1st Positive			X									
		B	STD	NA	Stop on 1st Positive			X									

SAMPLE TYPE CODES		RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
A – Air	W – Wipe				
B – Bulk	T – Tape		10/26/22 1400	JM Fx 945	10/27/22
D – Dust	R – Rock				
SO – Soil	O – Other:				

eurofins | Built Environment Testing

Report for:

Kaitlyn Mitchell
Tetra Tech-KCMO
415 Oak Street
Kansas City, MO 64106

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 103G65210190.011.05
EML ID: 3069423

Approved by:

Approved Signatory
Balu Krishnan

Dates of Analysis:
Asbestos PLM: 11-01-2022

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200844-0

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Tetra Tech-KCMO
C/O: Kaitlyn Mitchell
Re: 103G65210190.011.05

Date of Sampling: 10-26-2022
Date of Receipt: 10-27-2022
Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Total Samples Submitted:	9
Total Samples Analyzed:	7
Total Samples with Layer Asbestos Content > 1%:	1

Location: NH-RT-01, Roofing

Lab ID-Version‡: 14807915-1

Sample Layers	Asbestos Content
Black Roofing Material	10% Chrysotile
Sample Composite Homogeneity:	Good

Comments: Samples NH-RT-02 and NH-RT-03 were not analyzed due to prior positive series.

Location: NH-DW-01, Drywall

Lab ID-Version‡: 14807918-1

Sample Layers	Asbestos Content
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	12% Cellulose
Sample Composite Homogeneity:	Good

Location: NH-DW-02, Drywall

Lab ID-Version‡: 14807919-1

Sample Layers	Asbestos Content
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	12% Cellulose
Sample Composite Homogeneity:	Good

Location: NH-DW-03, Drywall

Lab ID-Version‡: 14807920-1

Sample Layers	Asbestos Content
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	12% Cellulose
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Tetra Tech-KCMO
C/O: Kaitlyn Mitchell
Re: 103G65210190.011.05

Date of Sampling: 10-26-2022
Date of Receipt: 10-27-2022
Date of Report: 11-01-2022

ASBESTOS PLM REPORT

Location: NH-CLK-01, Caulk Lab ID-Version‡: 14807921-1

Sample Layers	Asbestos Content
White Caulk	ND
Sample Composite Homogeneity:	Good

Location: NH-CLK-02, Caulk Lab ID-Version‡: 14807922-1

Sample Layers	Asbestos Content
White Caulk	ND
Sample Composite Homogeneity:	Good

Location: NH-CLK-03, Caulk Lab ID-Version‡: 14807923-1

Sample Layers	Asbestos Content
White Caulk	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

APPENDIX E

PCB ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

ANALYTICAL REPORT

October 31, 2022

Tetra Tech EMI - Lenexa Ks.

Sample Delivery Group:	L1551288
Samples Received:	10/28/2022
Project Number:	103G65210190.011.05
Description:	Nevada Habitation

Report To: Kaitlyn Mitchell
415 Oak St.
Kansas City, MO 64106

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

SAMPLE SUMMARY

PCB-1 L1551288-01 Solid

Collected by: Zach Usher
Collected date/time: 10/26/22 11:00
Received date/time: 10/28/22 09:28

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1950442	1	10/31/22 00:00	10/31/22 00:00	ANF	Minneapolis, MN 55414

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Project Narrative

L1551288 -01 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Tetra Tech, Inc.
415 Oak Street
Kansas City, MO 64106

Billing Information:
Tetra Tech, Inc.
415 Oak Street
Kansas City, MO 64106

Pres Chk

Report to: **Kaitlyn Mitchell**

Email To: **kaitlyn.mitchell@tetratech.com**

Project Description: **Nevada Habilitation**

City/State Collected: **MO**

Please Circle: PT MT CT ET

Phone: **816-412-1742**

Client Project # **103G65210190.011.05**

Lab Project #

Collected by (print): **Zach Usher**

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N X Y ___

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	PCBs in Caulking	Remarks	Sample # (lab only)
PCB-1	Grab	OT	—	10/26/22	1100	1	X		

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

12065 Lebanon Rd Mount Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1551283

Table #

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
UPS FedEx Courier

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: ___ Y ___ N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	10/26/22	1400	Pace 10/27/22 0920		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.0 °C Bottles Received:	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

October 31, 2022

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1551288 WG1950442
Pace Project No.: 10631380

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on October 27, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kongmeng Vang
kongmeng.vang@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for Testing & Innovation

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: L1551288 WG1950442
Pace Project No.: 10631380

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: L1551288 WG1950442
Pace Project No.: 10631380

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10631380001	**PCB-1**	Solid	10/26/22 11:00	10/27/22 09:20

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: L1551288 WG1950442
Pace Project No.: 10631380

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10631380001	**PCB-1**	EPA 8082A	RAG	9	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: L1551288 WG1950442
Pace Project No.: 10631380

Sample: PCB-1 **Lab ID: 10631380001** Collected: 10/26/22 11:00 Received: 10/27/22 09:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<83.9**	ug/kg	198	83.9	1	10/27/22 16:41	10/28/22 21:10	12674-11-2	
PCB-1221 (Aroclor 1221)	**<137**	ug/kg	198	137	1	10/27/22 16:41	10/28/22 21:10	11104-28-2	
PCB-1232 (Aroclor 1232)	**<117**	ug/kg	198	117	1	10/27/22 16:41	10/28/22 21:10	11141-16-5	
PCB-1242 (Aroclor 1242)	**<123**	ug/kg	198	123	1	10/27/22 16:41	10/28/22 21:10	53469-21-9	
PCB-1248 (Aroclor 1248)	**<101**	ug/kg	198	101	1	10/27/22 16:41	10/28/22 21:10	12672-29-6	
PCB-1254 (Aroclor 1254)	**<98.8**	ug/kg	198	98.8	1	10/27/22 16:41	10/28/22 21:10	11097-69-1	
PCB-1260 (Aroclor 1260)	**<70.8**	ug/kg	198	70.8	1	10/27/22 16:41	10/28/22 21:10	11096-82-5	
Surrogates									
Tetrachloro-m-xylene (S)	91	%.	53-125		1	10/27/22 16:41	10/28/22 21:10	877-09-8	P1
Decachlorobiphenyl (S)	86	%.	41-125		1	10/27/22 16:41	10/28/22 21:10	2051-24-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: L1551288 WG1950442
Pace Project No.: 10631380

QC Batch: 849670
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10631380001

METHOD BLANK: 4493729 Matrix: Solid
Associated Lab Samples: 10631380001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	10/28/22 18:00	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	10/28/22 18:00	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	10/28/22 18:00	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	10/28/22 18:00	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	10/28/22 18:00	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	10/28/22 18:00	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	10/28/22 18:00	
Decachlorobiphenyl (S)	%.	88	41-125		10/28/22 18:00	
Tetrachloro-m-xylene (S)	%.	83	53-125		10/28/22 18:00	

LABORATORY CONTROL SAMPLE: 4493730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	858	86	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	848	85	70-125	
Decachlorobiphenyl (S)	%.			89	41-125	
Tetrachloro-m-xylene (S)	%.			82	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4493731 4493732

Parameter	Units	10631213001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	ND	2020	1840	2130	1930	106	105	53-125	10	30	
PCB-1260 (Aroclor 1260)	ug/kg	ND	2020	1840	1650	1660	82	90	30-143	0	30	
Decachlorobiphenyl (S)	%.						85	56	41-125			
Tetrachloro-m-xylene (S)	%.						81	76	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: L1551288 WG1950442
Pace Project No.: 10631380

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 10631380

[1] Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

ANALYTE QUALIFIERS

P1 Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1551288 WG1950442
Pace Project No.: 10631380

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10631380001	**PCB-1**	EPA 3546	849670	EPA 8082A	849930

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Pace Analytical	Report To: Pace Analytical Subout Team	Attention:
Address: 12065 Lebanon Rd.	Copy To:	Company Name:
Mt. Juliet, TN 37122		Address:
Email: MTJLSuboutTeam@pacelabs.com	Purchase Order #: L1551288	Pace Quote:
Phone: (615) 773-9756 Fax: (615) 758-5859	Project Name:	Pace Project Manager: Kongmeng Vang
Requested Due Date: 4-Nov	Project #:	Pace Profile #: 38076

Regulatory Agency
State / Location
MN 55414, MN 55414

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test	PCBs	Residual Chlorine (Y/N)
1	PCB-1	SL				26-Oct	11:00		1								1			X	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	James C Huckaba	28-Oct	9:36				
Pace Analytical Batch: WG1950442							
Pace Analytical SDGs: L1551288							
Location: Minneapolis, MN 55414							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: **DATE Signed:**

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Company Name/Address:
Tetra Tech, Inc.
415 Oak Street
Kansas City, MO 64106

Billing Information:
Tetra Tech, Inc.
415 Oak Street
Kansas City, MO 64106

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

WO# : 10631380

10631380

Pace
LE ADVANCING SCIENCE
Mount Juliet, TN 37122
Alt: 800-767-5859

Report to: **Kaitlyn Mitchell**

Email To: **kaitlyn.mitchell@tetratech.com**

Project Description: Nevada Habilitation

City/State Collected: **MO**

Please Circle: PT MT CT ET

Phone: **816-412-1742**

Client Project # **103G65210190.011.05**

Lab Project #

Collected by (print): **Zach Usher**

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N X Y ___

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

PCBs in Caulking

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG #:

Table #:

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	PCBs in Caulking	Remarks	Sample # (lab only)
PCB-1	Grab	OT	—	10/26/22	1100	1	X		001

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	10/26/22	1400	0920 10/27/22	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 20.4 °C Bottles Received:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Sample Condition Upon Receipt

Client Name: Terra Tech

Project #: WO#: 10631380
PM: KV Due Date: 11/03/22
CLIENT: ESC_TN

Courier: ☑ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 524871628440 ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☑ T8 (0775) ☐ 01339252/1710

Type of Ice: ☐ Wet ☐ Blue ☑ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** _____ °C

Correction Factor: -0.2 **Cooler Temp Corrected w/temp blank:** _____ °C

Average Corrected Temp (no temp blank only): 20.4 °C
☐ See Exceptions ENV-FRM-MIN4-0142 ☑ 1 Container

USDA Regulated Soil: ☑ N/A, water sample/other: Solid

Date/Initials of Person Examining Contents: KB 10/27/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☑ Yes	☐ No		6.
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☐ Soil ☐ Oil ☑ Other Solid				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 10/27/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: KB **Line:** 3

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☑ No

If yes, Indicate who was contacted, date and time.
If no, indicate reason why.

10/27/22 No ice

Multiple Cooler Project? ☐ Yes ☑ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

Qualtrax ID: 52763