January 19, 2024

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

Subject: Contract 68HERH19D0018; Task Order (TO) 68E0719F0190
Joplin Union Depot, 205 North Main Street, Joplin, Jasper County, Missouri
Targeted Brownfields Assessment, Hazardous 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 Materials Survey of the Joplin Union Depot Site at 205 North Main Street in Joplin, Jasper County, Missouri. This deliverable has been reviewed internally as part of both Tetra Tech's and Toeroek's quality assurance programs, as well as 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,

Greg Hanna
Toeroek Team Program Manager

Kaitlyn Mitchell
Toeroek Team Project Manager

Enclosure: Hazardous Materials Survey

cc: Amber Krueger, EPA Region 7 (cover letter only)
Heather Wood, Tetra Tech
Toeroek Team Project Files

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TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS MATERIALS SURVEY

JOPLIN UNION DEPOT
205 NORTH MAIN STREET
JOPLIN, JASPER COUNTY, MISSOURI

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7

Task Order	:	68E0719F0190
Subtask	:	019.05
EPA Region	:	7
Date Prepared	:	January 19, 2024
Contract No.	:	68HERH19D0018
Prepared by	:	Toeroek Associates, Inc.
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Toeroek Associates, Inc. (Toeroek) and its teaming subcontractor, Tetra Tech, Inc. (Tetra Tech) (hereafter, the "Toeroek Team") to provide technical support to the EPA Region 7 Brownfields Program under Contract Number (No.) 68HERH19D0018, Task Order No. 68E0719F0190. Specifically, EPA Region 7 requested that the Toeroek Team conduct a hazardous materials survey (the "Survey") as part of a Targeted Brownfields Assessment (TBA) of the Joplin Union Depot site at 205 North Main Street in Joplin, Jasper County, Missouri (the Site). Layouts of the Site building are included on the figures in Appendix A.

Construction of the Site building occurred prior to 1978; as such, asbestos-containing materials (ACMs) and lead-based paint (LBP) were likely to have been used during construction. Additionally, caulk used during construction may have contained polychlorinated biphenyls (PCBs). Considering these possibilities, the scope of the Survey included an inspection of the Site building for the presence of ACM, LBP, and PCBs in caulk. The Toeroek Team also prepared a Phase II Environmental Site Assessment report, which is submitted under separate cover.

The Toeroek Team conducted the Survey on November 21, 2023. Appendix B includes the photographic documentation log of observations made during the Survey field effort. On July 25, 2023, the Toeroek Team submitted a site-specific quality assurance project plan (QAPP) to EPA. EPA approved the QAPP as final on September 14, 2023 (Toeroek Team 2023). The Toeroek Team Project Manager is Ms. Kaitlyn Mitchell. Mr. Stephen Knerr, a Missouri-licensed asbestos and lead inspector, was the Field Team Leader. The field team also included Ms. Macy LaMasney. Inspector certifications for Mr. Knerr and Ms. LaMasney are in Appendix C. Prior to any renovations or demolition of the Site building, the Toeroek Team recommends any additional building material characterization to comply with all local, state, and federal requirements regulating ACM, LBP, and PCBs.

The purpose of the ACM portion of this Survey was to evaluate the Site building for the presence, quantity, locations, and characterization of ACM that may require abatement prior to any development activities per National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as adopted by EPA. The NESHAP regulations protect the public (and workers) by minimizing release of asbestos fibers during activities involving processing, handling, or disposal of ACM; inhalation of asbestos fibers can cause cancer and other lung diseases (Agency for Toxic Substances and Disease Registry [ATSDR] 2008). Overall, the Survey accorded with industry standard practice for hazardous materials surveys, and collection of samples suspected to contain ACM accorded with NESHAP regulations as adopted by EPA.

As part of the Survey, the Toeroek Team also screened for the presence, quantity, and locations of LBP exceeding lead hazard levels, which would require Occupational Safety and Health Administration (OSHA) worker safety precautions during development activities at the Site building. The LBP portion of this Survey proceeded according to protocols resembling the single-family housing inspection procedures in the 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.

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

This Survey report consists of the following sections:

- Section 2.0 Site Building;
- Section 3.0 ACM Field Survey and Analytical Protocols;
- Section 4.0 LBP Screening and Analytical Protocols;
- Section 5.0 PCB Field Survey and Analytical Protocols;
- Section 6.0 ACM Findings;
- Section 7.0 LBP Findings;
- Section 8.0 PCB Findings;
- Section 9.0 Findings and Recommendations;
- Section 10.0 Assumptions and Deviations; and
- Section 11.0 References.

The Toeroek Team prepared this Survey report in accordance with generally accepted industrial hygiene practices and procedures. This Survey report does not cover unassessed structural areas, either visibly or by sample collection. Furthermore, the data evaluation and assessment stated herein constitute a professional opinion; no other warranty is expressed or implied. Additionally, the Toeroek Team provided its services per 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 reuse of this document, its findings, its conclusions, and its recommendations is at the risk of said user. Because of limitations on destructive sampling during the Survey field effort, completion of this Survey report does not guarantee characterization of all ACMs, LBP, or PCBs in caulk. Hazardous materials may be present in the voids of walls, ceilings, or other concealed areas. Finally, this Survey report does not warrant against future operations or conditions that may not be consistent with its recommendations.

2.0 SITE BUILDING

The Site is within a mixed-use commercial and residential area of Joplin, Missouri. The Site encompasses approximately 3.6 acres of land on one parcel and hosts a 23,826-square-foot building constructed between 1900 and 1911. Currently, the Site building is not in use, but it is regularly occupied by trespassers. The on-site building is constructed of brick, mortar, and concrete. Interior finishes include brick and mortar, concrete, plaster walls, and plaster ceilings. Flooring materials include terrazzo and concrete.

3.0 ACM FIELD SURVEY AND ANALYTICAL PROTOCOLS

The Toeroek Team inspected all interior areas of the on-site building for ACM. Minor demolition of materials (destructive sampling) was required during the Survey field effort. The Toeroek Team targeted areas with previous damage when selecting ACM sampling locations. The inspector took care to ensure the Site remained unoccupied during the work. Overall, sampling of materials suspected to be ACM accorded with NESHAP regulations, as adopted by EPA, and the Asbestos Hazard and Emergency Response Act of 1986 (AHERA).

AHERA defines ACM as any material or product that contains more than 1 percent asbestos. The Toeroek Team grouped suspected ACM into homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided that materials (for example, wall texturing) differed in appearance and texture from other materials, the inspector distinguished the materials as unique and collected samples of each material accordingly. Because of limitations on destructive sampling methods, additional suspect materials not sampled may be present in walls, voids, or other concealed areas.

The Toeroek Team collected bulk samples of suspected ACM in such a way to ensure representation of each distinct layer of material in the sample. A wetting agent was applied to friable surfaces prior to ACM sample collection to reduce potential for fiber release, and all samples were placed in plastic bags, labeled, and sealed immediately upon collection. To prevent cross-contamination between samples, the sampling instruments were wiped clean by use of a wet, lint-free cloth after collection of each ACM sample.

Each ACM sample received a unique sample identification number, and the samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the Toeroek Team shipped the bulk samples, along with chain-of-custody documentation, to Eurofins EMLab P&K Laboratories (Eurofins), a National Voluntary Laboratory Accreditation Program (NVLAP)-certified laboratory. Eurofins analyzed suspect ACM samples per EPA Method 600/R-93/116 via polarized light microscopy (PLM). Samples determined to contain less than 1 percent asbestos were then analyzed via EPA Point Count 400 (also EPA Method 600/R-93/116).

Section 6.0 summarizes ACM analytical results, which are listed in Table 1. Sample locations are shown on Figures 1 and 2 in Appendix A, and Appendix D presents ACM analytical results and chain-of-custody forms for bulk ACM samples.

4.0 LBP SCREENING AND ANALYTICAL PROTOCOLS

HUD's *Guidelines for the Evaluation and Control of LBP in Housing* (2012) (HUD Guidelines) suggests that paint applied before 1978 could contain lead; therefore, the Toeroek Team screened all areas of the building via XRF for LBP on surfaces that could be affected during renovation activities. XRF screenings of suspected LBP accorded with protocols resembling the single-family housing inspection procedures in the HUD Guidelines.

The Toeroek Team utilized an Olympus Delta Professional Alloy Plus XRF to perform these screenings. The Olympus Delta Professional Alloy Plus is an XRF spectrum analyzing system used for quantitative measurement of lead in paint on various substrates. The Toeroek Team also used 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 via XRF testing or laboratory analysis is considered LBP.

The Toeroek Team performed XRF calibration checks on the Olympus Delta Professional Alloy Plus XRF spectrometer according to the protocol recommended by the manufacturer and the HUD Guidelines. These quality control readings tracked performance of the Olympus Delta Professional Alloy Plus XRF spectrometer. The Toeroek Team took calibration-check readings at the beginning and end of this Survey from a standard reference material (SRM) paint film developed by the National Institute of Standards and Technology (NIST).

Section 7.0 summarizes results from the XRF screenings of painted surfaces at the Site, and Table 2 lists screening results. Some LBP quantities in Table 2 are combined to avoid duplicate quantities of commingled materials.

5.0 PCB FIELD SURVEY AND ANALYTICAL PROTOCOLS

The Toeroek Team inspected all areas of the Site building for PCBs. Minor demolition of materials (destructive sampling) was required during the Survey field effort. The Toeroek Team targeted areas with previous damage when selecting suspected PCB-containing caulk sampling locations. The inspector took care to ensure that the areas remained unoccupied during sample collection.

Per EPA guidance, the Toeroek Team collected samples of caulk possibly containing PCBs. The EPA action level is 50 parts per million (ppm) for PCBs in materials; this was the benchmark for this Survey (EPA 2016). The Toeroek Team grouped suspected PCB-containing caulk materials into homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided materials differed in appearance and texture to other materials or were associated with a different building construction date, then the inspector distinguished the materials as unique and collected separate samples accordingly.

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

Each suspect PCB-containing caulk sample received a unique sample identification number and remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the Toeroek Team shipped the bulk samples, along with chain-of-custody documentation, to Eurofins in Cedar Falls, Iowa. Eurofins analyzed bulk samples of suspect PCB-containing caulk materials via EPA Method 8082.

Appendix E includes PCB analytical results from the bulk samples, as well as chain-of-custody forms. Section 8.0 summarizes analytical results. PCB quantities are listed in Table 3. Sampling locations appear on Figures 1 and 2 in Appendix A.

6.0 ACM FINDINGS

PLM results from samples analyzed for ACM appear in the laboratory report in Appendix D and are summarized in Table 1. Bolded data in Table 1 indicate samples containing asbestos at concentrations greater than 1 percent. Figures 1 and 2 in Appendix A show sample locations.

TABLE 1 — SUMMARY OF ANALYSIS FOR SUSPECT ACM
JOPLIN UNION DEPOT, JOPLIN, MISSOURI

Figure Key	Sample ID	Material Description	Material Locations	Friable (F) / Non-Friable (NF)	Analytical Result (% ACM)[1]	Quantity[2]
1	JD-PL-01	Plaster	Throughout	NA	ND	NA
2	JD-PL-02					
3	JD-PL-03					
4	JD-PL-04					
5	JD-PL-05					
6	JD-PL-06					
7	JD-PL-07					
8	JD-TF-01	Terrazzo Flooring	Throughout 1st Floor	NA	ND	NA
9	JD-TF-02					
10	JD-TF-03					
11	**JD-RF-01**	**Roof Flashing**	**Roof**	**NF**	**5% Chrysotile**	**1,250 SF**
12	**JD-RF-02**					
13	**JD-RF-03**					
14	JD-RM-01	Roofing Material	Roof	NA	ND	NA
15	JD-RM-02					
16	JD-RM-03					
17	JD-WI-01	Brown Wire Insulation with Black Mastic	Throughout	NA	ND	NA
18	JD-WI-02					
19	JD-RC-01	Gray Roof Caulk	Around Perimeter on Roof Flashing	NA	ND	NA
20	JD-RC-02					
21	JD-RC-03					

Notes:

The figure key corresponds to the sample key table on the figures in Appendix A.

Bolded result indicates where asbestos was detected at a concentration greater than 1% and is considered ACM.

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

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

[2] Quantities of non-ACM materials are not required.

%	Percent	OSHA	Occupational Safety and Health Administration
ACM	Asbestos-containing material	PL	Plaster
AHERA	Asbestos Hazard and Emergency Response Act of 1986	RC	Roof caulk
EPA	U.S. Environmental Protection Agency	RF	Roof flashing
ID	Identification	RM	Roof material
JD	Joplin Union Depot	SF	Square feet
NA	Not applicable	TF	Terrazzo flooring
ND	Not detected	WI	Wire insulation

7.0 LBP FINDINGS

Table 2 summarizes screening results for suspected LBP by use of the XRF spectrometer. Bold data in Table 2 indicate where LBP was detected at concentrations greater than or equal to 1.0 mg/cm^2. Some LBP quantities in Table 2 are combined to avoid duplicate quantities of commingled materials.

TABLE 2 — SUMMARY OF LBP SCREENING RESULTS
JOPLIN UNION DEPOT, JOPLIN, MISSOURI

XRF Screening No.[1]	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm^2)	Damaged[1]	Quantity[3]
Calibration Standard					1.15/1.12/1.09	NA	NA
Calibration Blank					0.15/0.16/0.16	NA	NA
1	Tan	Room 1	Wall A	Concrete	0.01	NA	NA
2	Black	Room 1	Barn Door	Wood	0.19	NA	NA
3	Tan	Room 1	Barn Door	Wood	0.14	NA	NA
4	White	Room 1 to Room 2	Door Frame	Metal	0.01	NA	NA
5	**Olive**	**Room 3**	**Window Frame**	**Wood**	**5.0**	**Yes**	**55 SF**
6	Yellow	Room 4	Wall C	Concrete	0.86	NA	NA
7	Yellow	Room 4	Wall A	Concrete	0.21	NA	NA
8	Yellow	Room 4	Column	Concrete	0.80	NA	NA
9	Yellow	Room 4	Ceiling	Concrete	0.85	NA	NA
10	Black	Room 4	Wall A	Concrete	0.56	NA	NA
11	**Yellow**	**Room 4**	**Window Frame**	**Wood**	**3.72**	**Yes**	**20 SF**
12	**Yellow**	**Room 4**	**Window**	**Wood**	**4.12**	**Yes**	**60 SF**
13	**Gray**	**Room 5**	**Wall A**	**Plaster**	**5.0**	**Yes**	**645 SF + 112 SF Ceiling**
14	**Gray**	**Room 6**	**Wall D**	**Plaster**	**3.1**	**Yes**	**648 SF**
15	**Gray**	**Room 6**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**295 SF**
16	Tan	Main Room (Room 7)	Wall A	Plaster	0.24	NA	NA
17	Tan	Main Room (Room 7)	Wall B	Plaster	0.11	NA	NA
18	**Tan**	**Main Room (Room 7)**	**Wall A**	**Plaster**	**5.0**	**Yes**	**3,920 SF Total**
19	**Tan**	**Main Room (Room 7)**	**Wall B**	**Plaster**	**5.0**	**Yes**	**See Wall A**
20	**Tan**	**Main Room (Room 7)**	**Wall C**	**Plaster**	**5.0**	**Yes**	**See Wall A**
21	**Tan**	**Main Room (Room 7)**	**Wall D**	**Plaster**	**5.0**	**Yes**	**See Wall A**
22	White	Main Room (Room 7)	Decorative Trim	Plaster	0.02	NA	NA
23	White	Main Room (Room 7)	Wall D	Ceramic Wall Tile	0.01	NA	NA
24	Black	Main Room (Room 7)	Door Frame	Wood	0.02	NA	NA
25	**Tan**	**Main Room (Room 7)**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**4,760 SF**
26	White	Check-in Area (North)	Wall A	Plaster	0.21	NA	NA
27	White	Check-in Area (North)	Wall D	Plaster	0.36	NA	NA

TABLE 2 — SUMMARY OF LBP SCREENING RESULTS (Continued)
JOPLIN UNION DEPOT, JOPLIN, MISSOURI

XRF Screening No.[1]	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm^2)	Damaged[1]	Quantity[3]
28	White	Check-in Area (North)	Wall B	Plaster	0.25	NA	NA
29	White	Check-in Area (North)	Wall C	Plaster	0.17	NA	NA
30	Green	Check-in Area (North)	Wall B	Plaster	0.77	NA	NA
31	Tan	Check-in Area (Central)	Wall A	Plaster	0.23	NA	NA
32	Tan	Check-in Area (Central)	Wall B	Plaster	0.17	NA	NA
33	Gray	Check-in Area (Central)	Wall C	Plaster	0.07	NA	NA
34	Gray	Check-in Area (Central)	Wall D	Plaster	0.01	NA	NA
35	White	Check-in Area (Central)	Ceiling	Plaster	0.08	NA	NA
36	**Tan**	**Check-in Area (Central)**	**Column**	**Plaster**	**5.0**	**Yes**	**225 SF x 2 Columns**
37	Black	Check-in Area (Central)	Window Frame	Wood	0.13	NA	NA
38	Gray	Check-in Area (Central)	Chair Rail	Wood	0.87	NA	NA
39	Tan	Women's Restroom (8)	Wall A	Plaster	0.21	NA	NA
40	Gray	Women's Restroom (8)	Wall B	Plaster	0.79	NA	NA
41	**White**	**Women's Restroom (8)**	**Wall B**	**Plaster**	**5.0**	**Yes**	**784 SF Total**
42	**White**	**Women's Restroom (8)**	**Wall A**	**Plaster**	**5.0**	**Yes**	**See Wall B**
43	Yellow	Women's Restroom (8)	Wall B	Brick	0.01	NA	NA
44	**White**	**Women's Restroom (8)**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**190 SF**
45	Tan	Women's Restroom (8)	Door Frame	Wood	0.15	NA	NA
46	Tan	Room 9	Wall A	Plaster	0.08	NA	NA
47	**Tan**	**Room 9**	**Wall B**	**Plaster**	**1.15**	**Yes**	**1,736 SF Total**
48	White	Room 9	Wall C	Plaster	0.01	NA	NA
49	**White**	**Room 9**	**Wall C**	**Plaster**	**5.0**	**Yes**	**See Wall B**
50	White	Room 9	Wall D	Plaster	0.16	NA	NA
51	**White**	**Room 9**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**940 SF**
52	**Tan**	**Men's Restroom (11)**	**See Women's Restroom**			**Yes**	**974 SF**
53	**White**	**Room 10**	**See Room 9**			**Yes**	**2,676 SF**
54	Green	Dining Room (12)	Wall A	Plaster	0.61	NA	NA
55	Green	Dining Room (12)	Wall B	Plaster	0.02	NA	NA
56	White	Dining Room (12)	Wall B	Plaster	0.11	NA	NA
57	**White**	**Dining Room (12)**	**Wall C**	**Plaster**	**1.81**	**Yes**	**2,716 SF**
58	**Green**	**Dining Room (12)**	**Wall C**	**Plaster**	**5.0**	**Yes**	**See Wall C**
59	**White**	**Dining Room (12)**	**Wall D**	**Plaster**	**5.0**	**Yes**	**See Wall C**

TABLE 2 — SUMMARY OF LBP SCREENING RESULTS (Continued)
JOPLIN UNION DEPOT, JOPLIN, MISSOURI

XRF Screening No.[1]	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm^2)	Damaged[1]	Quantity[3]
60	**Green**	**Dining Room (12)**	**Door Casing Trim**	**Plaster**	**3.1**	**Yes**	**175 SF**
61	Green	Dining Room (12)	Door	Wood	0.23	NA	NA
62	Green	Dining Room (12)	Door Frame	Wood	0.3	NA	NA
63	**Yellow**	**Dining Room (12)**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**1,894 SF**
64	**Red**	**Room 13**	**Wall A**	**Plaster**	**5.0**	**Yes**	**2,548 SF Total**
65	**Beige**	**Room 13**	**Wall A**	**Plaster**	**1.6**	**Yes**	**See Wall A**
66	**Beige**	**Room 13**	**Wall B**	**Plaster**	**1.19**	**Yes**	**See Wall A**
67	**Beige**	**Room 13**	**Wall C**	**Plaster**	**5.0**	**Yes**	**See Wall A**
68	**Beige**	**Room 13**	**Wall D**	**Plaster**	**5.0**	**Yes**	**See Wall A**
69	**Beige**	**Room 13**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**2,020 SF**
70	**Red**	**Room 13**	**Decorative Trim**	**Plaster**	**3.54**	**Yes**	**32 LF**
71	**White**	**Room 13**	**Decorative Trim**	**Plaster**	**5.0**	**Yes**	**32 LF**
72	Blue	Room 13	Crown Molding	Wood	0.41	NA	NA
73	Beige	Kitchen (14)	Wall A	Plaster	0.08	NA	NA
74	**Beige**	**Kitchen (14)**	**Wall B (Top Half of Wall)**	**Plaster**	**5.0**	**Yes**	**1,458 SF Total**
75	Beige	Kitchen (14)	Wall C	Plaster	0.07	NA	NA
76	**Beige**	**Kitchen (14)**	**Wall C (Top Half of Wall)**	**Plaster**	**5.0**	**Yes**	**See Wall B (Top Half of Wall)**
77	Beige	Kitchen (14)	Wall D	Plaster	0.13	NA	NA
78	**Beige**	**Kitchen (14)**	**Wall D (Top Half of Wall)**	**Plaster**	**5.0**	**Yes**	**See Wall B (Top Half of Wall)**
79	**Beige**	**Kitchen (14)**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**1,250 SF**
80	**Green**	**Kitchen (14)**	**Door Frame**	**Wood**	**5.0**	**Yes**	**16 SF**
81	**White**	**Basement Access**	**Wall A**	**Plaster**	**3.74**	**Yes**	**728 SF Total**
82	Green	Basement Access	Ductwork	Metal	0.92	NA	NA
83	**White**	**Basement Access**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**140 SF**
84	**Green**	**Basement Access**	**Door Frame**	**Wood**	**1.0**	**Yes**	**96 SF (6 Doors)**
85	Beige	Room 15 (Off Basement Access)	Wall B	Plaster	0.01	NA	NA
86	Beige	Room 15	Wall C	Plaster	0.01	NA	NA
87	Beige	Room 15	Wall D	Plaster	0.01	NA	NA
88	Beige	Basement Coal Storage	Wall A	Plaster	0.08	NA	NA
89	Beige	Basement Coal Storage	Ceiling	Plaster	0.01	NA	NA

TABLE 2 — SUMMARY OF LBP SCREENING RESULTS (Continued)
JOPLIN UNION DEPOT, JOPLIN, MISSOURI

XRF Screening No.[1]	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm^2)	Damaged[1]	Quantity[3]
90	Beige	Basement Steps	Stairs	Concrete	0.02	NA	NA
91	Yellow	2nd Floor Stairwell	Wall A	Plaster	0.01	NA	NA
92	Yellow	2nd Floor Stairwell	Wall B	Plaster	0.04	NA	NA
93	Yellow	2nd Floor Stairwell	Wall C	Plaster	0.02	NA	NA
94	Yellow	2nd Floor Stairwell	Wall D	Plaster	0.05	NA	NA
95	**Gray**	**2nd Floor Stairwell**	**Ceiling**	**Plaster**	**5.0**	**Yes**	**72 SF**
96	Brown	2nd Floor Stairwell	Window Frame	Wood	0.13	NA	NA
97	**White**	**2nd Floor Stairwell**	**Stair Railing**	**Metal**	**1.29**	**Yes**	**20 SF**
98	White	2nd Floor	Wall A	Plaster	0.26	NA	NA
99	White	2nd Floor	Wall B	Plaster	0.30	NA	NA
100	**White**	**2nd Floor**	**Wall B**	**Plaster**	**5.0**	**Yes**	**3,900 SF Total**
101	**White**	**2nd Floor**	**Column**	**Plaster**	**5.0**	**Yes**	**225 SF x 8 Columns**
102	Off-White	Exterior	Wall A	Concrete	0.03	NA	NA
103	Off-White	Exterior	Wall B	Concrete	0.01	NA	NA
104	Off-White	Exterior	Ceiling	Plaster	0.01	NA	NA
105	**Black**	**Exterior**	**Door / Window Frames**	**Wood**	**5.0**	**Yes**	**1,055 SF Total**
106	Tan	Exterior	Octagonal Column	Concrete	0.01	NA	NA
107	Tan	Exterior	Wall C	Concrete	0.18	NA	NA
108	Tan	Exterior	Wall D	Concrete	0.01	NA	NA
Calibration Standard					1.03/1.07/1.08	NA	NA
Calibration Blank					0.06/0.08/0.06	NA	NA

Notes:

Bolded results indicate the presence of LBP at greater than or equal to 1% of the material.

[1] XRF reading numbers are in sequential order; skipped numbers indicate calibration or null readings.

[2] If no damage is present before renovation, the preliminary removal of chipping and peeling paint is unnecessary prior to encapsulation.

[3] Quantities of non-LBP are not required.

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

8.0 PCB FINDINGS

The laboratory report in Appendix E conveys analytical results from bulk samples of suspected PCB-containing caulk materials. One suspected PCB-containing caulk sample was collected from the Site building. Table 3 below summarizes the results. Figure 2 in Appendix A shows the suspected PCB-containing caulk sample location.

TABLE 3 — SUMMARY OF PCB FINDINGS
JOPLIN UNION DEPOT, 205 NORTH MAIN STREET, JOPLIN, MISSOURI

Figure Key	Sample ID	Material Description	Material Locations	Analytical Result (ppm)	Quantity
1	RC-01	Roofing Caulk	Roof	ND	NA

Notes:

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

9.0 FINDINGS AND RECOMMENDATIONS

The following findings and recommendations are based on observations during the Survey field effort and analytical results from bulk samples collected at the Site:

9.1 ASBESTOS-CONTAINING MATERIAL (ACM)

This Survey identified black roof flashing (approximately 1,250 square feet [SF]) on the roof as ACM. No other materials contained detectable concentrations of asbestos.

The ACM listed above should be removed by a licensed asbestos abatement contractor before any demolition work is performed that may disturb building materials. The removed waste must be transported to a disposal site approved to accept both friable and non-friable ACM. If the Site structure is to be renovated, or if plans do not include disturbing any of the above ACM, the ACM may remain in place.

9.2 LEAD-BASED PAINT (LBP)

Approximately 38,633 SF and 64 linear feet of various colors of LBP were identified on a variety of substrates throughout the Site structure—including door frames, decorative trim, columns, door trim, walls, stair railings, window frames, windows, and ceilings.

If the LBP surfaces are to be affected during renovations or during demolition at the Site, the Toeroek Team recommends that the contractor conducting the renovations comply with the OSHA lead in construction standard—Title 29 of the *Code of Federal Regulations* (CFR), Part 1926.62. If the materials containing LBP are removed during renovation activities, a sample should be collected from the debris pile for Toxicity Characteristic Leaching Procedure (TCLP) analysis (40 CFR 261.24). Representative samples should be collected and analyzed for all eight metals specified in 40 CFR Part 261.24 (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), which would allow for determination of the proper method of disposal of the materials.

9.3 POLYCHLORINATED BIPHENYLS (PCBs)

PCBs were not detected in any samples submitted for laboratory analysis.

10.0 ASSUMPTIONS AND DEVIATIONS

The Toeroek Team inspected the interiors and exteriors of the Site building for suspected ACM, LBP, and PCB-containing caulk.

11.0 REFERENCES

Agency for Toxic Substance and Disease Registry (ATSDR). 2008. "Asbestos: Health Effects." Accessed December 13, 2012. http://www.atsdr.cdc.gov/asbestos/asbestos/health_effects

Environmental Protection Agency, U.S. (EPA). 2016. "How to Test for PCBs and Characterize Suspect Materials." Accessed July 7, 2022. https://www.epa.gov/pcbs/how-test-pcbs-and-characterize-suspect-materials

Toeroek Associates, Inc. and Tetra Tech, Inc. (Toeroek Team). 2023. *Quality Assurance Project Plan, Phase II Environmental Site Assessment and Hazardous Materials Survey*. Boys and Girls Home, 2101 Court Street, Sioux City, Iowa. April 2023.

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

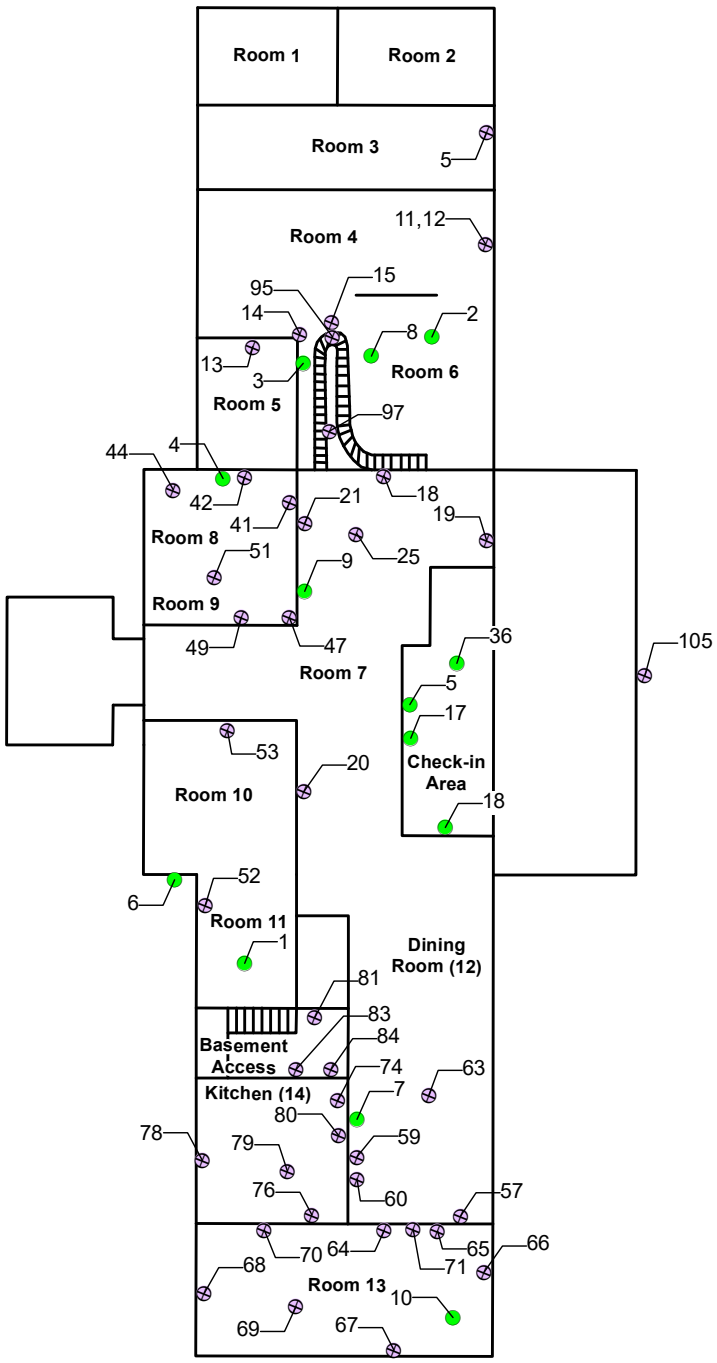
APPENDIX A

FIGURES

FIGURE 1 SAMPLE LOCATION MAP – 1ST FLOOR

Sample Key Table

Key	Sample No.
Asbestos	
1	JD-PL-01
2	JD-PL-02
3	JD-PL-03
4	JD-PL-04
5	JD-PL-05
6	JD-PL-06
7	JD-PL-07
8	JD-TF-01
9	JD-TF-02
10	JD-TF-03
11	JD-RF-01
12	JD-RF-02
13	JD-RF-03
14	JD-RM-01
15	JD-RM-02
16	JD-RM-03
17	JD-WI-01
18	JD-WI-02
Asbestos / PCB	
19	JD-RC-01
20	JD-RC-02
21	JD-RC-03



Legend

All sample points for the building are tabulated above, including points on other floors. Red text indicates confirmed asbestos-containing material (ACM).

- Negative Asbestos Sample Location
- Positive LBP Sample Location

LBP Lead-Based Paint

N

Not to Scale

Joplin Union Depot
205 North Main Street
Joplin, Missouri

Figure 1
Sample Location Map - First Floor

TETRA TECH

TOEROEK ASSOCIATES, INC.

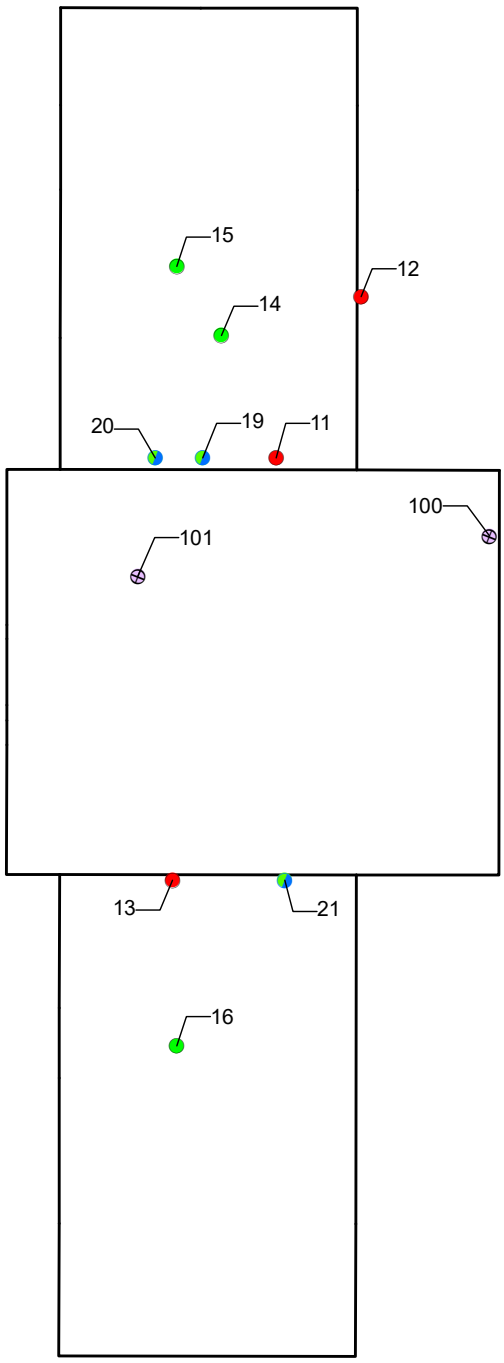
Date: 12/19/2023 Drawn By: Nick Wiederholt Project No: 103Z65210190.19.01

X:\G\65210190.19.01\Projects\mxd\Figure1_HAZMAT.mxd

FIGURE 2 SAMPLE LOCATION MAP – 2ND FLOOR/ROOF

Sample Key Table

Key	Sample No.
Asbestos	
1	JD-PL-01
2	JD-PL-02
3	JD-PL-03
4	JD-PL-04
5	JD-PL-05
6	JD-PL-06
7	JD-PL-07
8	JD-TF-01
9	JD-TF-02
10	JD-TF-03
11	JD-RF-01
12	JD-RF-02
13	JD-RF-03
14	JD-RM-01
15	JD-RM-02
16	JD-RM-03
17	JD-WI-01
18	JD-WI-02
Asbestos / PCB	
19	JD-RC-01
20	JD-RC-02
21	JD-RC-03



Legend

All sample points for the building are tabulated above, including points on other floors. Red text indicates confirmed asbestos-containing material (ACM).

- Negative Asbestos Sample Location
- Negative Asbestos / PCB Sample Location
- Positive Asbestos Sample Location
- Positive LBP Sample Location

LBP Lead-Based Paint

PCB Polychlorinated Biphenyl

Not to Scale

Joplin Union Depot
205 North Main Street
Joplin, Missouri

Figure 2
Sample Location Map -
Second Floor/Roof

TETRA TECH TOEROEK ASSOCIATES, INC.

Date: 12/19/2023 Drawn By: Nick Wiederholt Project No: 103Z65210190.19.01

X:\IG\65210190.19.01\Projects\mxd\Figure2_HAZMAT.mxd

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION LOG

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows the front of the Joplin Union Depot.	1
	CLIENT	U.S. Environmental Protection Agency (EPA)	DATE: 1/19/23
DIRECTION: East	PHOTOGRAPHER	Kaitlyn Mitchell	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows confirmed asbestos-containing material (ACM) black roof flashing typical of material present across the roof.	2
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Not Applicable (N/A)	PHOTOGRAPHER	Stephen Knerr	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows olive lead-based paint (LBP) on a wood window frame in Room 3.	3
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Northeast	PHOTOGRAPHER	Stephen Knerr	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows yellow LBP present on wood windows and window frames in Room 4.	4
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: East	PHOTOGRAPHER	Stephen Knerr	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows gray LBP present on plaster walls in Room 5.	5
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Southwest	PHOTOGRAPHER	Stephen Knerr	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows tan LBP on plaster walls and ceiling in the Main Room (Room 7).	6
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Southwest	PHOTOGRAPHER	Macy La Masney	

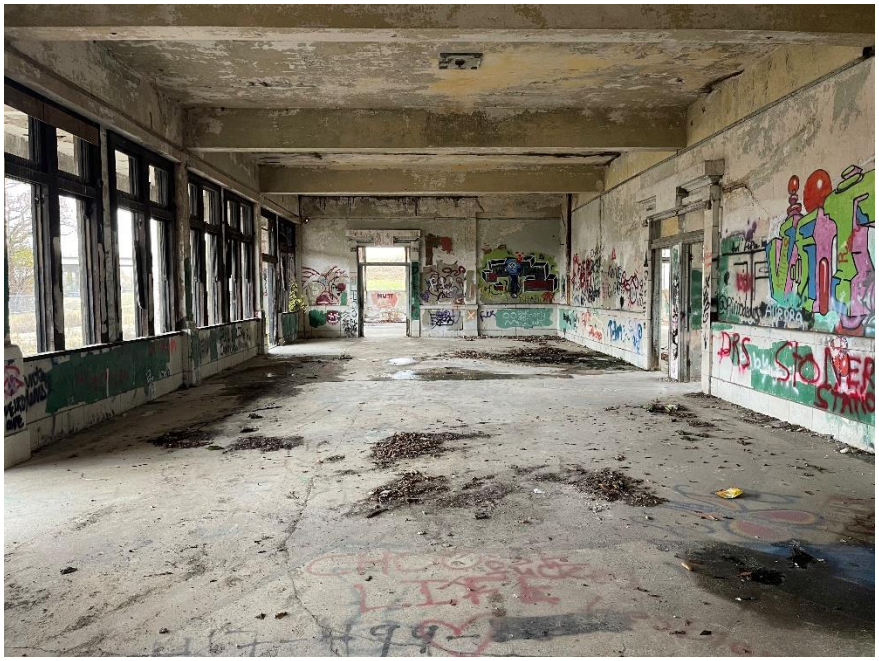
Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows tan LBP present on plaster columns in the Check-in Area.	7
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: West	PHOTOGRAPHER	Stephen Knerr	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows white LBP on plaster walls in the Women's Restroom (Room 8).	8
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: North	PHOTOGRAPHER	Stephen Knerr	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows tan and white LBP present on plaster walls and ceiling in Room 9.	9
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: West	PHOTOGRAPHER	Macy La Masney	



SUBTASK NO. 19.05	DESCRIPTION	This photograph shows white and green LBP on plaster walls and yellow LBP on the plaster ceiling in the Dining Room (Room 12).	10
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: South	PHOTOGRAPHER	Macy La Masney	

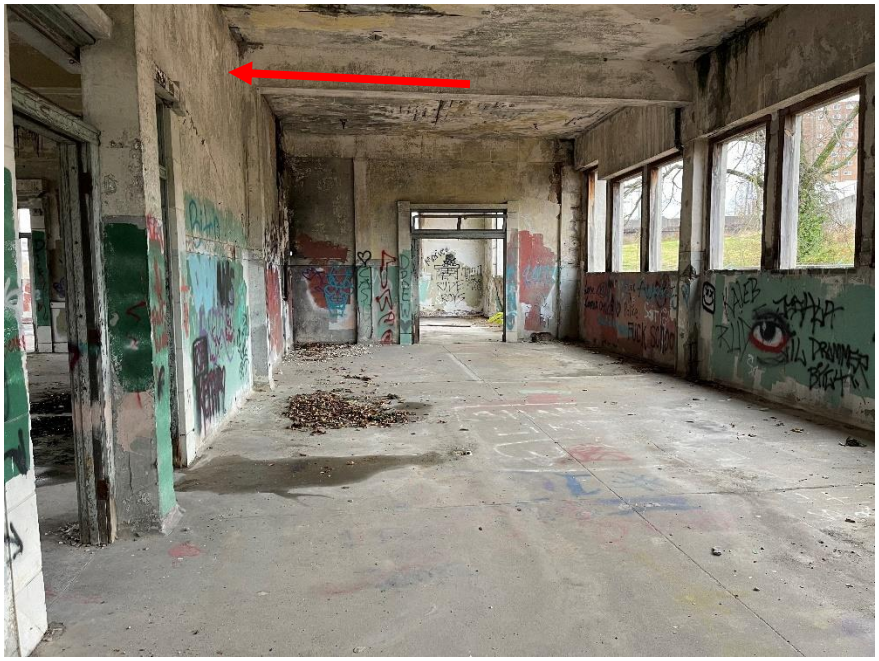
Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows green LBP on wood door casing trim in the Dining Room (Room 12).	11
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: South	PHOTOGRAPHER	Macy La Masney	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows beige and red LBP on plaster walls and ceiling in Room 13.	12
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: South-southwest	PHOTOGRAPHER	Macy La Masney	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows red and white LBP on plaster decorative trim in Room 13.	13
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: N/A	PHOTOGRAPHER	Stephen Knerr	



SUBTASK NO. 19.05	DESCRIPTION	This photograph shows beige LBP on the top half of plaster walls, as well as the plaster ceiling in the Kitchen (Room 14).	14
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: South	PHOTOGRAPHER	Macy La Masney	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows green LBP on the wood door frame in the Kitchen (Room 14).	15
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: North	PHOTOGRAPHER	Stephen Knerr	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows white LBP on plaster walls in the Basement Access Room.	16
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: West	PHOTOGRAPHER	Stephen Knerr	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows gray LBP on the plaster ceiling in the 2nd Floor Stairwell.	17
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: North	PHOTOGRAPHER	Macy La Masney	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows white LBP on metal stair railings in the 2nd Floor Stairwell.	18
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Southwest	PHOTOGRAPHER	Stephen Knerr	

Hazardous Materials Survey
Photographic Documentation Log
Joplin Union Depot – Joplin, Missouri

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows white LBP on plaster walls, as well as on columns on the 2nd Floor.	19
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: Southeast	PHOTOGRAPHER	Macy La Masney	

SUBTASK NO. 19.05	DESCRIPTION	This photograph shows black LBP on the exterior wood door and wood window frames.	20
	CLIENT	EPA	DATE: 11/21/23
DIRECTION: West	PHOTOGRAPHER	Stephen Knerr	

APPENDIX C

INSPECTOR CERTIFICATIONS

CERTIFICATION NUMBER:

700108282 3MOIR22403

THIS CERTIFIES

Macy A La Masney

HAS COMPLETED THE CERTIFICATION

REQUIREMENTS FOR

Inspector

APPROVED: **09/11/2023**

EXPIRES: **09/11/2024**

TRAINING DATE: **08/28/2023**

Director of Air Pollution Control Program

The holder of this card is certified to conduct the specified occupation in conjunction with an asbestos abatement project under the certification requirements, in RSMo. 10 CSR 10-6.250.

It is unlawful for any person to use this card other than the individual to whom it is issued or in any manner inconsistent with the law.

Violations of Missouri State Rule 10 CSR 10-6.080. "Emission Standards for Hazardous Air Pollutants." which adopts by reference 40 CFR, Part 61, Subpart M. the "National Emission Standards for Asbestos," are subject to fines of not more than $10,000 per day per violation. This Missouri State Certification is subject to review and the director may deny, suspend or revoke this certification per RSMo. chapter 643.230.

If found, please return to:

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
Phone: (573)751-4817 Fax:(573)751-2706
www.dnr.mo.gov/env/apcp

CERTIFICATION NUMBER:

7011072823MOIR17354

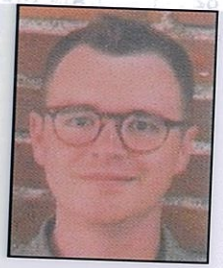
THIS CERTIFIES

Stephen M Knerr

HAS COMPLETED THE CERTIFICATION

REQUIREMENTS FOR

Inspector



APPROVED: **09/12/2023**

EXPIRES: **07/28/2024**

TRAINING DATE: **07/28/2023**

Director of Air Pollution Control Program

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Stephen M. Knerr

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

Lead Risk Assessor
Category of License

Issuance Date:	**3/11/2023**
Expiration Date:	**3/11/2025**
License Number:	**190311-300005706**

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

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

APPENDIX D

ACM ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

eurofins | Built Environment Testing

Report for:

Mr. Jeffrey Mitchell
Tetra Tech-KCMO
415 Oak Street
Kansas City, MO 64106

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: Joplin Mion Depot; Asbestos Survey
EML ID: 3464961

Approved by:

Approved Signatory
Balu Krishnan

Dates of Analysis:
Asbestos PLM: 11-29-2023

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: Mr. Jeffrey Mitchell
Re: Joplin Mion Depot; Asbestos Survey

Date of Sampling: 11-21-2023
Date of Receipt: 11-28-2023
Date of Report: 11-29-2023

ASBESTOS COMBO REPORT

Total Samples Submitted:	21
Total Samples Analyzed:	19
Total Samples with Layer Asbestos Content > 1%:	1

Location: JD-PL-01, Plaster Lab ID-Version‡: 16885285-1

Sample Layers	Asbestos Content	Method
White Skim Coat	ND	Asbestos PLM
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-PL-02, Plaster Lab ID-Version‡: 16885286-1

Sample Layers	Asbestos Content	Method
White Skim Coat	ND	Asbestos PLM
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-PL-03, Plaster Lab ID-Version‡: 16885287-1

Sample Layers	Asbestos Content	Method
White Skim Coat	ND	Asbestos PLM
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-PL-04, Plaster Lab ID-Version‡: 16885288-1

Sample Layers	Asbestos Content	Method
White Skim Coat	ND	Asbestos PLM
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. Where PLM/calibrated visual estimate results have been reported, ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Where point count results have been reported, the analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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: Mr. Jeffrey Mitchell
Re: Joplin Mion Depot; Asbestos Survey

Date of Sampling: 11-21-2023
Date of Receipt: 11-28-2023
Date of Report: 11-29-2023

ASBESTOS COMBO REPORT

Location: JD-PL-05, Plaster Lab ID-Version‡: 16885289-1

Sample Layers	Asbestos Content	Method
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-PL-06, Plaster Lab ID-Version‡: 16885290-1

Sample Layers	Asbestos Content	Method
White Skim Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-PL-07, Plaster Lab ID-Version‡: 16885291-1

Sample Layers	Asbestos Content	Method
Gray Base Coat	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-TF-01, Terrazzo Flooring Lab ID-Version‡: 16885292-1

Sample Layers	Asbestos Content	Method
Gray Flooring	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-TF-02, Terrazzo Flooring Lab ID-Version‡: 16885293-1

Sample Layers	Asbestos Content	Method
Red Flooring	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. Where PLM/calibrated visual estimate results have been reported, ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Where point count results have been reported, the analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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.
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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: Mr. Jeffrey Mitchell
Re: Joplin Mion Depot; Asbestos Survey

Date of Sampling: 11-21-2023
Date of Receipt: 11-28-2023
Date of Report: 11-29-2023

ASBESTOS COMBO REPORT

Location: JD-TF-03, Terrazzo Flooring Lab ID-Version‡: 16885294-1

Sample Layers	Asbestos Content	Method
Gray Flooring	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-RF-01, Roof Flashing Lab ID-Version‡: 16885295-1

Sample Layers	Asbestos Content	Method
Black Roof Flashing	5% Chrysotile	Asbestos PLM
Sample Composite Homogeneity:	Good	

Comments: Samples in same HA Group not analyzed due to positive stop.

Location: JD-RM-01, Roofing Material Lab ID-Version‡: 16885298-1

Sample Layers	Asbestos Content	Method
Black Roofing Felt	ND	Asbestos PLM
Black Roofing Tar	ND	Asbestos PLM
Composite Non-Asbestos Content:	5% Glass Fibers	
Sample Composite Homogeneity:	Good	

Location: JD-RM-02, Roofing Material Lab ID-Version‡: 16885299-1

Sample Layers	Asbestos Content	Method
Black Roofing Felt	ND	Asbestos PLM
Black Roofing Tar	ND	Asbestos PLM
Composite Non-Asbestos Content:	5% Cellulose	
Sample Composite Homogeneity:	Good	

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. Where PLM/calibrated visual estimate results have been reported, ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Where point count results have been reported, the analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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.
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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: Mr. Jeffrey Mitchell
Re: Joplin Mion Depot; Asbestos Survey

Date of Sampling: 11-21-2023
Date of Receipt: 11-28-2023
Date of Report: 11-29-2023

ASBESTOS COMBO REPORT

Location: JD-RM-03, Roofing Material Lab ID-Version‡: 16885300-1

Sample Layers	Asbestos Content	Method
Black Roofing Felt	ND	Asbestos PLM
Black Roofing Tar	ND	Asbestos PLM
Composite Non-Asbestos Content:	5% Cellulose	
Sample Composite Homogeneity:	Good	

Location: JD-WI-01, Wire Insulation Lab ID-Version‡: 16885301-1

Sample Layers	Asbestos Content	Method
Brown Insulation	ND	Asbestos PLM
Black Mastic	ND	Asbestos PLM
Composite Non-Asbestos Content:	65% Cellulose	
Sample Composite Homogeneity:	Good	

Location: JD-WI-02, Wire Insulation Lab ID-Version‡: 16885302-1

Sample Layers	Asbestos Content	Method
Brown Insulation	ND	Asbestos PLM
Black Mastic	ND	Asbestos PLM
Composite Non-Asbestos Content:	65% Cellulose	
Sample Composite Homogeneity:	Good	

Location: JD-RC-01, Roof Caulk Lab ID-Version‡: 16885303-1

Sample Layers	Asbestos Content	Method
Gray Caulk	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. Where PLM/calibrated visual estimate results have been reported, ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Where point count results have been reported, the analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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: Mr. Jeffrey Mitchell
Re: Joplin Mion Depot; Asbestos Survey

Date of Sampling: 11-21-2023
Date of Receipt: 11-28-2023
Date of Report: 11-29-2023

ASBESTOS COMBO REPORT

Location: JD-RC-02, Roof Caulk

Lab ID-Version‡: 16885304-1

Sample Layers	Asbestos Content	Method
Gray Caulk	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Location: JD-RC-03, Roof Caulk

Lab ID-Version‡: 16885305-1

Sample Layers	Asbestos Content	Method
Gray Caulk	ND	Asbestos PLM
Sample Composite Homogeneity:	Good	

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. Where PLM/calibrated visual estimate results have been reported, ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Where point count results have been reported, the analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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".

1 of 2

CHAIN OF CUSTODY

www.EMLabPK.com

eurofins | EMLab P&K

New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 * (866) 871-1984
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

ASBESTOS

REQUESTED SERVICES

003464961

CONTACT INFORMATION

Company:	Tetra Tech, Inc.	Address:	415 Oak Street, Kansas City, MO 64106
Contact:	Jeffrey Mitchell	Special Instructions:	Stop on 1st Positive
Phone:	816-412-1773		

PROJECT INFORMATION

Project ID:	Joplin Union Depot		
Project Description:	Asbestos Survey		
Project Zip Code:	64801	Sampling Date & Time:	11-21-23
PO Number:	1036.65216190.19.05	Sampled By:	Stephen Knerr

TURN AROUND TIME CODES (TAT)

- STD – Standard (DEFAULT)
- ND – Next Business Day
- SD – Same Business Day Rush*

*Please call Client Services for locations with Rush services

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

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: Asbestos Bulk PLM	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 (400 Pt Count)	PLM Bulk: Gravimetric Point Count (1000 Pt Count)	Rock & Soil: CARB 435 Method (400 Point Count)	Rock & Soil: CARB 435 Method (1000 Point Count)	Other Requests: Lead Analysis – Flame AA	Other Requests	Other Requests
JD-PL-01	Plaster	B	STD			☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	↓	↓	↓			☐	☐	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03						☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-04						☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-05						☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-06						☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-07	↓					☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
JD-TF-01	Terrazzo Flooring					☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	↓					☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03						☐	☐		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
JD-RF-01	Roof flashing	↓	↓			☐	☐	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SAMPLE TYPE CODES

A – Air	W – Wipe
B – Bulk	T – Tape
D – Dust	R – Rock
SO – Soil	O – Other

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
Stephen Knerr (signature)	11-24-23/1000	(signature) 11/24/23	
		(signature) 7:30	—

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at http://www.emlab.com/terms-of-service

2 of 2

CHAIN OF CUSTODY

www.EMLabPK.com

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SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 * (866) 888-6653

ASBESTOS A

003464961

REQUESTED SERVICES

CONTACT INFORMATION			
Company:	Tetra Tech, Inc.	Address:	415 Oak Street, Kansas City, MO 64106
Contact:	Jeffrey Mitchell	Special Instructions:	Stop on 1st Positive
Phone:	816-412-1773		

PROJECT INFORMATION				TURN AROUND TIME CODES (TAT)	
Project ID:	Joplin Union Depot			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:	Asbestos Survey			ND – Next Business Day	
Project Zip Code:	64801	Sampling Date & Time:	11-21-23	SD – Same Business Day Rush*	
PO Number:	103G65210190.19.05	Sampled By:	Stephen Knerr	*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: Asbestos Bulk PLM	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 (400 Pt Count)	PLM Bulk: Gravimetric Point Count (1000 Pt Count)	PLM Rock & Soil: CARB 435 Method (400 Point Count)	PLM Rock & Soil: CARB 435 Method (1000 Point Count)	Other Requests: Lead Analysis – Flame AA	Other Requests	Other Requests
JP-RC-02	Roof Flashing	B	STD			☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
JP-RM-01	Roofing material					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-07	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
JP-WI-01	White Insulation					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
JP-RC-01	Roof Caulk					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03	"					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SAMPLE TYPE CODES	
A – Air	W – Wipe
B – Bulk	T – Tape
D – Dust	R – Rock
SO – Soil	O – Other:

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
Stephen Knerr	11-24-23/1030	HK	11/28/23

APPENDIX E

PCB ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

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ANALYTICAL REPORT

PREPARED FOR

Attn: Macy La Masney
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 12/7/2023 9:02:32 AM

JOB DESCRIPTION

Joplin Union Depot

JOB NUMBER

310-270352-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Generated
12/7/2023 9:02:32 AM

Authorized for release by
Bob Michels, Project Manager I
Bob.Michels@et.eurofinsus.com
(319)277-2401

Table of Contents

Job ID: 310-270352-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-270352-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 11/28/2023 9:25 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

PCBs
Method 8082A: The following sample required a Silica Gel clean-up, via EPA Method 3630C, to reduce matrix interferences: RC-01 (310-270352-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-270352-1	RC-01	Solid	11/21/23 00:00	11/28/23 09:25

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Client Sample ID: RC-01 **Lab Sample ID: 310-270352-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Client Sample ID: RC-01
Date Collected: 11/21/23 00:00
Date Received: 11/28/23 09:25

Lab Sample ID: 310-270352-1
Matrix: Solid

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1221	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1232	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1242	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1248	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1254	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1
Aroclor-1260	<362		362		ug/Kg		11/30/23 10:18	12/06/23 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*47*		*10 - 149*	*11/30/23 10:18*	*12/06/23 11:49*	*1*
DCB Decachlorobiphenyl	*55*		*10 - 174*	*11/30/23 10:18*	*12/06/23 11:49*	*1*

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		TCX2	DCBP2								
Lab Sample ID	Client Sample ID	(10-149)	(10-174)								
310-270352-1	RC-01	47	55								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		TCX1	DCBP1								
Lab Sample ID	Client Sample ID	(10-149)	(10-174)								
LCS 240-596182/2-A	Lab Control Sample	108	101								
MB 240-596182/1-A	Method Blank	96	91								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-596182/1-A
Matrix: Solid
Analysis Batch: 596277

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596182

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1221	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1232	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1242	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1248	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1254	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1
Aroclor-1260	<50.0		50.0		ug/Kg		11/30/23 10:18	12/01/23 12:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*10 - 149*	*11/30/23 10:18*	*12/01/23 12:09*	*1*
DCB Decachlorobiphenyl	*91*		*10 - 174*	*11/30/23 10:18*	*12/01/23 12:09*	*1*

Lab Sample ID: LCS 240-596182/2-A
Matrix: Solid
Analysis Batch: 596277

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596182

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aroclor-1016			1000	1032		ug/Kg		103	28 - 140		
Aroclor-1260			1000	948.0		ug/Kg		95	39 - 153		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*108*		*10 - 149*
DCB Decachlorobiphenyl	*101*		*10 - 174*

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

GC Semi VOA

Prep Batch: 596182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-270352-1	RC-01	Total/NA	Solid	3540C	
MB 240-596182/1-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-596182/2-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 596277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-596182/1-A	Method Blank	Total/NA	Solid	8082A	596182
LCS 240-596182/2-A	Lab Control Sample	Total/NA	Solid	8082A	596182

Analysis Batch: 596662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-270352-1	RC-01	Total/NA	Solid	8082A	596182

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Client Sample ID: RC-01

Date Collected: 11/21/23 00:00
Date Received: 11/28/23 09:25

Lab Sample ID: 310-270352-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3540C			596182	NPR	EET CLE	11/30/23 10:18
Total/NA	Analysis	8082A		1	596662	RR	EET CLE	12/06/23 11:49

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Job ID: 310-270352-1
Project/Site: Joplin Union Depot

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Joplin Union Depot

Job ID: 310-270352-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET CLE
3540C	Soxhlet Extraction	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

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310-270352 Chain of Custody

Cooler/Sample Receipt and Temperatu

Client Information

Client: TetraTech

City/State: CITY | STATE MO | Project:

Receipt Information

Date/Time Received: DATE 11-28-23 TIME 925 | Received By: MU

Delivery Type: ☐ UPS ☑ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☐ Yes	☒ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☐ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☐ Yes	☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☐ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☒ NONE

Thermometer ID: | Correction Factor (°C):

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): | Corrected Temp (°C):

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE. If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way

Cedar Falls, IA 50613
phone 319 277.2401 fax 319.277.2425

Chain of Custody Record

eurofins Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Environment Testing America

Client Contact	**Project Manager: Macy La Masney**		COC No
Tetra Tech	Email macy lamasney@tetratech com	**Site Contact:**	**Date:**	_____ of _____ COCs
415 Oak Street	**Tel/Fax:**	**Lab Contact:**	**Carrier:**	TALS Project #:
Kansas City MO 64106	**Analysis Turnaround Time**			Sampler: Macy La Masney
(816) 412-1791	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
(xxx) xxx-xxxx FAX	TAT if different from Below STD			Walk-in Client:
Project Name Joplin Union Depot	☐ 2 weeks			Lab Sampling
Site	☐ 1 week			
P O # 103G65210190 19 05	☐ 2 days			Job / SDG No
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PCBs	Sample Specific Notes
RC-01	11/21/2023		G	Solid	1	N	N	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No		Cooler Temp (°C) Obs'd _____ Corr'd _____		Therm ID No _____
Relinquished by: Macy La Masney	Company: Tetra Tech	Date/Time 11-24-23/1000	Received by: Mv	Company:	Date/Time 11-28-23 925
Relinquished by	Company:	Date/Time.	Received by:	Company:	Date/Time
Relinquished by	Company:	Date/Time	Received in Laboratory by:	Company:	Date/Time

12/7/2023

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

2.2/3.0

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Michels, Bob C	Carrier Tracking No(s)	COC No: 310-67838.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Bob.Michels@et.eurofinsus.com	State of Origin: Missouri	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note)		Job #: 310-270352-1
Address: 180 S. Van Buren Avenue, ,	Due Date Requested: 12/11/2023			
City: Barberton	TAT Requested (days):			
State, Zip: OH, 44203				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #			
Email	WO #:			
Project Name: Joplin Union Depot	Project #: 31016660			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

E156

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8082A/3540C_PCB_1YR PCBs 7 Aroclors	Total Number of containers
			Preservation Code:					
RC-01 (310-270352-1)	11/21/23	Central		Solid			X	1

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	11/20/23 1425			11-29-23 1020	EETNC
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver. 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client Eurofins - CF Site Name _____ Cooler unpacked by: DMP

Cooler Received on 11-29-23 Opened on 11-29-23

FedEx: 1st Grd (Exp) UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 19 (CF +0.8 °C) Observed Cooler Temp 2.2 °C Corrected Cooler Temp. 3.0 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes) No	
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes) No NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	(Yes) No NA	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes) No	
9. For each sample, does the COC specify preservatives (Y(N), # of containers (Y)N), and sample type of grab/comp(Y(N))?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
11. Sufficient quantity received to perform indicated analyses?	(Yes) No	
12. Are these work share samples and all listed on the COC?	(Yes) No	
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	~~Yes No NA~~	pH Strip Lot# HC316719
14. Were VOAs on the COC?	Yes No	
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No NA	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes No	
17. Was a LL Hg or Me Hg trip blank present? _____	~~Yes No~~	

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

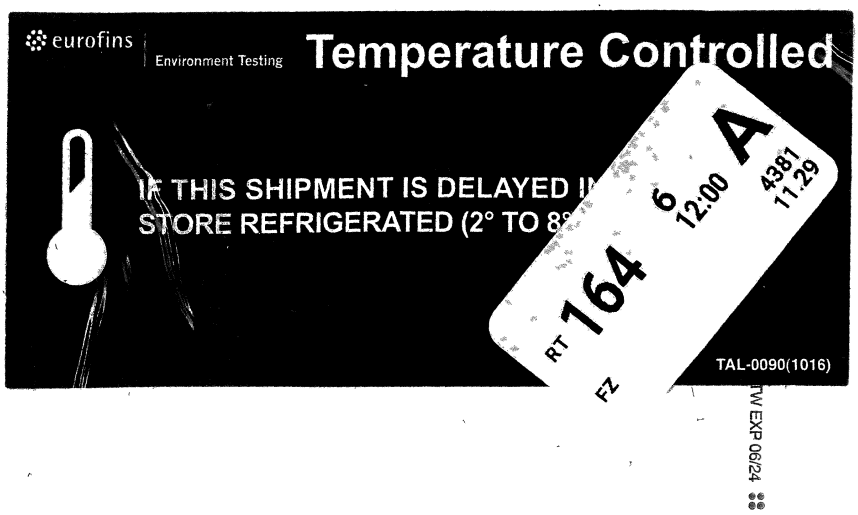
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____



TW EXP 06/24

ORIGIN ID ALOA (319) 277-2401
SAMPLE RECEIVING
EUROFINS TESTAMERICA
3019 VENTURE WAY

CEDAR FALLS, IA 50613
UNITED STATES US

SHIP DATE: 28NOV23
ACTWGT: 9.15 LB
CAD: 0870970/CAFE3755

BILL SENDER

TO **SHIPPING/RECEIVING**
EUROFINS ENVIRONMENT TESTING NORTH
180 S. VAN BUREN AVENUE

BARBERTON OH 44203
(330) 497-9396
REF: S310-87325

FedEx Express

TRK# 0201 **7008 5804 4381**

WED - 29 NOV 12:00P
PRIORITY OVERNIGHT

NX CAKA

44203
OH-US **CLE**

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 310-270352-1
SDG Number:

Login Number: 270352
List Number: 1
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	