



November 16, 2020

Mr. Bradley Roberts
Task Order Contracting Officer's Representative
U.S. Environmental Protection Agency, Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

**Subject: Contract No. 68HERH19D0018; Task Order (TO) No. 68E0719F0190
Pine Lawn, 6109 Natural Bridge Road, Pine Lawn, Missouri
Targeted Brownfields Assessment Hazardous Materials Survey**

Dear Mr. Roberts:

Toeroek Associates, Inc. (Toeroek) and our teaming subcontractor, Tetra Tech, Inc. (hereafter "Toeroek Team") are pleased to present the attached Targeted Brownfields Assessment Hazardous Materials Survey of the Pine Lawn Site at 6109 Natural Bridge Road in Pine Lawn, Missouri (subject property). The Toeroek Team has conducted this survey based on the findings of the Phase I ESA performed at the subject property by Terracon Consultants, Inc. in July 2019. This deliverable has been reviewed internally as part of Tech 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 Paul Kieler at 303-407-0266 or Kaitlyn Mitchell at 816-412-1742.

Sincerely,

Paul Kieler
Toeroek Team Program Manager

Kaitlyn Mitchell
Toeroek Team Project Manager

Enclosure

cc: Leeanna Balsley, EPA Region 7 (cover letter only)
Lisa Dunning, EPA Region 7
Heather Wood, Tetra Tech
Toeroek Team Project Files

300 Union Blvd., Suite 520
Lakewood, CO 80228

Telephone 303-420-7735
Fax: 303-420-7658

**TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS MATERIALS SURVEY**

**PINE LAWN
6109 NATURAL BRIDGE ROAD, PINE LAWN, MISSOURI**



Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

Task Order	:	68E0719F0190
Subtask	:	02.05
EPA Region	:	7
Date Prepared	:	November 16, 2020
Contract No.	:	68HERH19D0018
Prepared by	:	Toeroek Associates, Inc.
Project Manager	:	Kaitlyn Mitchell
Telephone	:	816-412-1742
EPA TOCOR	:	Bradley Roberts
Telephone	:	913-551-7279

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EXECUTIVE SUMMARY

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 (TO) 68E0719F0190. EPA Region 7 requested that the Toeroek Team conduct a Hazardous Materials Survey (Survey) of the building at the Pine Lawn Site at 6109 Natural Bridge Road, Pine Lawn, Missouri (subject property). The subject property comprises an approximately 0.5-acre parcel and includes one 2,265-square-foot commercial structure and parking lot. The current property owner, the City of Pine Lawn, has is interested in possibly redeveloping the subject property based on findings from the brownfields assessment, which includes the Survey and a Phase II environmental site assessment (ESA) compliant with ASTM International standards. The Phase II ESA report will be submitted under separate cover.

The Survey included an inspection of the subject property building for presence of asbestos-containing materials (ACM), quantification of lead-based paint (LBP), and sampling of caulk suspected to contain polychlorinated biphenyls (PCB). As part of the Survey, the Toeroek Team also inventoried containerized hazardous waste (HW) and other hazardous materials.

The following findings and recommendations are based on observations during the Survey and analytical results from samples collected at the building on the subject property:

ACM

No regulated ACM was identified within the areas inspected at the subject property.

LBP

The U.S. Department of Housing and Urban Development (HUD) considers LBP as paint with lead levels exceeding 1.0 milligram per square centimeter (mg/cm²). No LBP was identified at the subject property.

PCBs

Due to limited sampling volume, no samples of material possibly containing PCBs were collected at the subject property.

HW

HW and other hazardous materials were inventoried during the Survey. The Toeroek Team recommends proper disposal of the materials based on their characteristics prior to demolition of the subject property building.

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 (TO) 68E0719F0190. EPA Region 7 requested that the Toeroek Team conduct a Hazardous Materials Survey (Survey) as part of a Targeted Brownfields Assessment (TBA) of the building at the Pine Lawn Site at 6109 Natural Bridge Road in Pine Lawn, Missouri (subject property) (see Appendix A, Figure 1). The subject property includes one 2,265-square-foot commercial structure and parking lot. The current structure was built in 1976. The scope of the Survey included an inspection of the subject property building for presence of asbestos-containing materials (ACM), polychlorinated biphenyls (PCB) in caulk, and lead-based paint (LBP). Additionally, the Toeroek Team inventoried containerized hazardous waste (HW) and other hazardous materials within the subject property building. As part of this survey, the Toeroek Team also conducted a Phase II Environmental Site Assessment (ESA), submitted under separate cover. Appendix B is a photolog of observations during the Survey.

The Toeroek Team’s Project Manager for the Survey was Ms. Kaitlyn Mitchell. The field team included Mr. Ryan Slanczka, State of Missouri-licensed asbestos and lead Inspector, and Ms. Bethany Gatz. Inspector certifications are in Appendix C. Because of limitations on destructive sampling methods, additional suspect materials may be present within walls, voids, or other concealed areas. Section 10.0 specifies assumptions and deviations regarding the Survey at the subject property. Prior to any renovations or demolition of the subject property building, further survey work may be needed to comply with all local, state, and federal requirements regulating ACM, LBP, PCBs, or HW.

The Toeroek Team conducted the Survey from September 28 through 30, 2020. The purpose of the asbestos survey was to evaluate the subject property building for presence, quantity, locations, and characterization 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 materials surveys. Collection of samples of suspected ACM accorded with NESHAP regulations as adopted by EPA.

The Toeroek Team screened for 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. The subject property building was constructed prior to 1978, and LBP was possibly used in the build-out of the structure. The LBP 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 portions of the subject property building could have been constructed between 1950 and 1978, PCBs may be present within the subject property building in materials, for example, caulk associated with windows, doors, and masonry columns. Due to limited sampling volume of identified caulk material, the Toeroek Team did not collect samples of material possibly containing PCBs within the building during the Survey.

As part of the Survey, the Toeroek Team completed an inventory of HW and other hazardous materials within the subject property building. The inventory included but was not limited to the following types of materials: white goods including air conditioners and refrigerators, product containers holding hazardous materials (paints), compressed gas cylinders, and any other HW items that may have to be removed during renovation/demolition of the building. The Toeroek Team made every effort to provide a complete inventory of these items; however, given disorderly distribution of construction debris inside the building, the Toeroek Team cannot guarantee an accounting of every item.

The Toeroek Team submitted a site-specific quality assurance project plan (QAPP) in support of Survey activities to EPA on August 3, 2020; EPA approved the QAPP via email on September 11, 2020, prior to field mobilization to the subject property (Toeroek 2020). Field activities accorded with the QAPP, except where noted in Section 10.0.

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 10.0 specifies assumptions and deviations regarding the Survey at the subject property.

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.

Section 2.0 of this report describes the structure at the subject property. Section 3.0 specifies field and analytical protocols for the ACM survey. Section 4.0 specifies field and analytical protocols for the LBP screening. Section 5.0 presents field protocols for the HW and hazardous materials inventory. Section 6.0 presents asbestos findings. Section 7.0 describes LBP findings. Section 8.0 describes HW and hazardous materials inventory findings. Section 9.0 offers recommendations based on survey findings. Section 10.0 specifies assumptions and deviations. Section 11.0 lists sources referenced during development of this report.

2.0 SUBJECT PROPERTY BUILDING

The subject property includes one 2,265-square-foot commercial structure and parking lot. The current building was constructed in 1976 (Terracon Consultants, Inc. [Terracon] 2019). The subject property is surrounded by a mixed-use area consisting of residential properties, commercial businesses, and parking lots. The subject property building is constructed of vinyl siding, concrete, and wood, and interior finishes include concrete and drywall. Flooring materials include concrete and wood panels.

3.0 ACM FIELD SURVEY AND ANALYTICAL PROTOCOLS

The Toeroek Team made every effort to inspect all interior areas of the subject property building. Minor demolition of materials (destructive sampling) was required during the survey effort. The inspector took care to ensure that the subject property 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 subject property 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 10.0 specifies assumptions and deviations regarding the Survey of the subject property 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 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% 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 6.0 of this report summarizes ACM analytical results. 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 buildings. 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 was performed according to protocols similar to the single-family housing inspection procedures in HUD Guidelines. Toeroek Team utilized an Innov-X 6000 Alpha Series analyzer to perform the LBP screening. The Innov-X 6000 Alpha Series 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 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 $1.0 \text{ mg}/\text{cm}^2$ lead by XRF testing or $1.0 \text{ mg}/\text{cm}^2$ lead by laboratory analysis is considered LBP.

The Toeroek Team performed XRF calibration checks on the Innov-X 6000 XRF spectrometer according to Thermo Scientific’s recommended protocol and HUD Guidelines. These quality control readings were used to monitor performance of the Innov-X 6000 XRF 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 7.0 of this report summarizes results from XRF screening of samples of painted surfaces collected at the subject property.

5.0 HAZARDOUS WASTE AND OTHER HAZARDOUS MATERIALS INVENTORY

The Toeroek Team completed an inventory of HW and other potentially hazardous materials in the subject property building. This inventory included but was not limited to the following types of materials: white goods including air conditioners and refrigerators, product containers holding hazardous materials (paints), compressed gas cylinders, and any other HW items that may have been present.

The Toeroek Team used an inventory field sheet and went through every room in the subject property building identifying, categorizing, and quantifying HW and hazardous materials. The Toeroek Team made every effort to provide a complete inventory of these items; however, the Toeroek Team cannot guarantee an accounting of every item. The exterior of the building was not included in this inventory (excluding air conditioning units), based on professional judgment of the assessment team. Items at the subject property that would not be affected during any renovation activities—for example, pole-mounted transformers, which may contain PCBs—were not included in the inventory. The assessment team walked the perimeter of the subject property building to identify any drums or other large containers that may contain hazardous waste; at the time of this assessment, no materials fitting this description had been identified outside the subject property building. A summary of HW and hazardous materials inventoried during the Survey is in Section 8.0 of this report.

6.0 ACM FINDINGS

PLM results from samples of suspect ACM collected at the building on the subject property, are presented in the laboratory report in Appendix D and summarized in Table 1 below. None of the materials sampled contained detectable asbestos. Sample locations are shown on Figure 2 in Appendix A.

TABLE 1

**SUMMARY OF RESULTS FROM LABORATORY ANALYSIS FOR SUSPECT ACM
PINE LAWN, 6109 NATURAL BRIDGE ROAD, PINE LAWN, MISSOURI**

Figure Key	Sample ID	Material Description	Material Locations	Friable (F)/ Non-Friable (NF)	Analytical Result (% ACM ¹)	Quantity
1	6109-DWJC-01	Drywall with Joint Compound	Throughout	NF	ND	NA
2	6109-DWJC-02					
3	6109-DWJC-03					
4	6109-CLK-01	Door caulk	Interior – South Door on West Wall	NF	ND	NA
5	6109-CLK-02					
6	6109-RF-01	Roof Flashing	Roof	NF	ND	NA
7	6109-RF-02					
8	6109-RF-03					
9	6109-RR-01	Rolled Roofing	Roof	NF	ND	NA
10	6109-RR-02					
11	6109-RR-03					
12	6109-RS-01	Roof Shingle	Roof	NF	ND	NA
13	6109-RS-02					
14	6109-RS2-01	Roof Shingle	Roof	NF	ND	NA
15	6109-RS2-02					

Notes:

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.

ACM Asbestos-containing material
AHERA Asbestos Hazard and Emergency Response Act of 1986
NA Not applicable
ND Not detected

7.0 LBP FINDINGS

A summary of screening results for LBP by use of the XRF spectrometer at the subject property building appears in Table 2 below. All XRF screening results were below 1.0 mg/cm².

TABLE 2
SUMMARY OF LBP SCREENING RESULTS
PINE LAWN, 6109 NATURAL BRIDGE ROAD, PINE LAWN, MISSOURI

XRF Screening No.	Paint Color	Location	Component	Substrate	XRF Reading (mg/cm ²)	Damaged ¹	Quantity
Calibration Blank					0.00/0.00/0.00	NA	NA
Calibration Standard					0.89/0.99/1.06	NA	NA
1	White	Interior – Throughout	Wall	Drywall	0.00	NA	NA
2	Tan	Exterior	Wall	Siding	0.00	NA	NA
3	Salmon	Back Entry	Door	Wood	0.01	NA	NA
4	Green	Side Entry – North	Door Frame	Wood	0.00	NA	NA
5	Pink	Exterior – Back	Wall	Concrete	0.00	NA	NA
6	Grey	Exterior – Awning	Soffit	Wood	0.00	NA	NA
7	Black	Exterior – Awning	Fascia	Wood	0.08	NA	NA

Notes:

¹ This column identifies damaged LBP surfaces. If no damage is present before renovation activities, preliminary removal of chipping and peeling paint is not necessary prior to the encapsulation process.

mg/cm² Milligrams per square centimeter
LBP Lead-based paint
NA Not applicable
XRF X-ray fluorescence

8.0 HAZARDOUS MATERIALS INVENTORY FINDINGS

The HW and hazardous materials inventory is summarized in Table 3 below. One room was not fully accessible due to interfering construction debris, these quantities are based on observed hazardous materials.

TABLE 3
SUMMARY OF HAZARDOUS MATERIALS INVENTORY
PINE LAWN, 6109 NATURAL BRIDGE ROAD, PINE LAWN, MISSOURI

Type of Household Hazardous Waste	Assessed Quantity
White Goods:	
Air Conditioner	1
Refrigerator	1
Other:	
Gallons of Latex Paint	12
Compressed Gas Cylinder	1

9.0 FINDINGS AND RECOMMENDATIONS

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

9.1 ACM

No regulated ACM was identified within the areas inspected at the subject property.

9.2 LBP

HUD Guidelines consider LBP as paint with lead levels above 1.0 mg/cm². As such, no LBP was identified at the subject property.

9.3 PCB

Due to limited sampling volume, no samples of material possibly containing PCBs were collected at the subject property.

9.4 HAZARDOUS WASTE (HW)

HW and other hazardous materials were inventoried during the Survey. The Toeroek Team recommends proper disposal of the materials based on their characteristics prior to demolition of the subject property building.

10.0 ASSUMPTIONS AND DEVIATIONS

The entire interior and exterior of the subject property building was inspected for suspect ACM, LBP, and PCB-containing caulk. Minimal amounts of caulking material was present within the building for sample collection as suspected PCBs; therefore, no samples for PCB analysis were collected. Because of limitations on destructive sampling methods, additional suspect materials may be present in walls, voids, or other inaccessible areas. All other areas of the subject property building were inspected.

11.0 REFERENCES

- Agency for Toxic Substance and Disease Registry (ATSDR). 2016. Asbestos: Health Effects. Accessed October 21, 2020. https://www.atsdr.cdc.gov/asbestos/health_effects_asbestos.html
- Terracon Consultants, Inc. (Terracon). 2019. Phase I Environmental Site Assessment: 6109 Natural Bridge Road, Pine Lawn, MO. July 11.
- Toeroek Associates, Inc. (Toeroek). 2020. Quality Assurance Project Plan, Phase II Environmental Site Assessment, Pine Lawn, 4311 and 4315 Jennings Station Road, and 6109, 6128, 6261, 6305, and 6310 Natural Bridge Road, Pine Lawn, Missouri. August 3.
- 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). 2020. How to Test for PCBs and Characterize Suspect Materials. Accessed October 20, 2020. <https://www.epa.gov/pcbs/how-test-pcbs-and-characterize-suspect-materials>

APPENDIX A

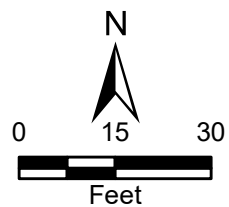
FIGURES

FIGURE 1
SITE LAYOUT MAP



Legend

Approximate site boundary



Pine Lawn
6109 Natural Bridge Road
Pine Lawn, Missouri

Figure 1 Site Layout Map



Source: Esri, ArcGIS Online, World Imagery, 2017

Date: 10/14/2020

Drawn By: Nick Wiederholt

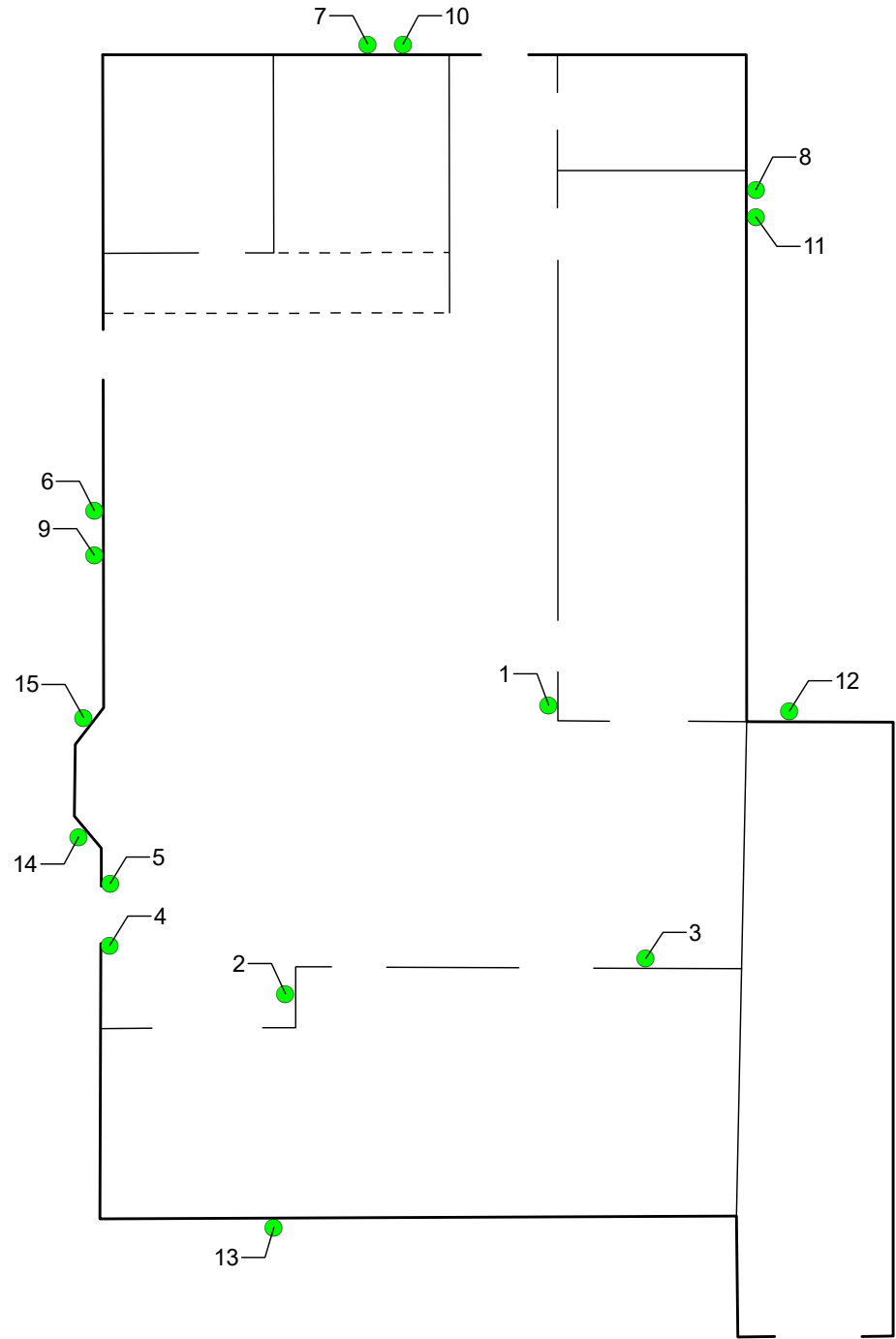
Project No: 103Z65210190.02.05

X:\P\652101\0002\Project\mxd\Hazmat\Figure1_9109_Natural_Bridge_Rd.mxd

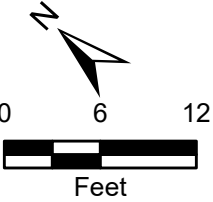
FIGURE 2
SAMPLE LOCATION MAP

Sample Key Table

Key	Sample No.
Asbestos	
1	6109-DWJC-01
2	6109-DWJC-02
3	6109-DWJC-03
4	6109-CLK-01
5	6109-CLK-02
6	6109-RF-01
7	6109-RF-02
8	6109-RF-03
9	6109-RR-01
10	6109-RR-02
11	6109-RR-03
12	6109-RS-01
13	6109-RS-02
14	6109-RS2-01
15	6109-RS2-02



- Legend
- Non-asbestos-containing material sample location



Pine Lawn
6109 Natural Bridge Road
Pine Lawn, Missouri

Figure 2
Sample Location Map



APPENDIX B
PHOTOGRAPHIC DOCUMENTATION

**Pine Lawn Site Hazardous Materials Survey
6109 Natural Bridge Road, St. Louis, Missouri**



SUBTASK NO. 02.05 Direction: East	DESCRIPTION	This photograph shows the building at 6109 Natural Bridge Road in Pine Lawn.	1
	CLIENT	U.S. Environmental Protection Agency (EPA)	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020



SUBTASK NO. 02.05 Direction: NA	DESCRIPTION	This photograph shows the location of caulk sampled as suspected asbestos-containing material (ACM).	2
	CLIENT	EPA	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020

**Pine Lawn Site Hazardous Materials Survey
6109 Natural Bridge Road, St. Louis, Missouri**



SUBTASK NO. 02.05 Direction: NA	DESCRIPTION	This photograph shows a location where sampling occurred of drywall and joint compound suspected to be ACM.	3
	CLIENT	U.S. Environmental Protection Agency (EPA)	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020



SUBTASK NO. 02.05 Direction: NA	DESCRIPTION	This photograph shows a location where sampling occurred of rolled roofing suspected to be ACM.	4
	CLIENT	EPA	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020

**Pine Lawn Site Hazardous Materials Survey
6109 Natural Bridge Road, St. Louis, Missouri**

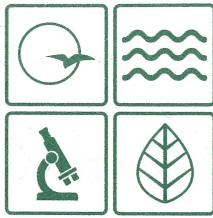


SUBTASK NO. 02.05 Direction: NA	DESCRIPTION	This photograph shows a location where sampling occurred of roof flashing suspected to be ACM.	5
	CLIENT	U.S. Environmental Protection Agency (EPA)	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020



SUBTASK NO. 02.05 Direction: NA	DESCRIPTION	This photograph shows a location where sampling occurred of a roof shingle suspected to be ACM.	6
	CLIENT	EPA	Date
	PHOTOGRAPHER	Ryan Slanczka	9/29/2020

APPENDIX C
INSPECTOR CERTIFICATIONS



Missouri Department of NATURAL RESOURCES

dnr.mo.gov

Michael L. Parson, Governor

Carol S. Comer, Director

January 6, 2020

Ryan J Slanczka
8151 Renner Rd Apt 9
Lenexa, KS 66219

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: 7011121219MOIR19454

Course Training Date: December 12, 2019

Missouri Certification Approval Date: January 07, 2020

Missouri Certification Expiration Date: January 07, 2021

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





**Missouri Department of Health
and Senior Services**



Lead Occupation License - ID Badge
License Number: 170912-300005383

Lead Inspector

**Ryan
Slanczka**

Expiration Date: **09/12/2021**

APPENDIX D

ACM ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

Report for:

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

Regarding: Project: 103G65210190.02.05; Pine Lawn, 6109 Natural Bridge Rd
EML ID: 2494550

Approved by:



Approved Signatory
Amin Suliman

Dates of Analysis:
Asbestos PLM: 10-06-2020

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 200728-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Tetra Tech-KCMO

C/O: Mr. Jeffrey Mitchell

Re: 103G65210190.02.05; Pine Lawn, 6109 Natural
Bridge Rd

Date of Sampling: 09-29-2020

Date of Receipt: 10-02-2020

Date of Report: 10-06-2020

ASBESTOS PLM REPORT**Total Samples Submitted:** 15**Total Samples Analyzed:** 15**Total Samples with Layer Asbestos Content > 1%:** 0**Location: 6109-DWJC-01, Drywall with joint compound**

Lab ID-Version‡: 11889169-1

Sample Layers	Asbestos Content
White Compound	ND
White Drywall	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Poor

Location: 6109-DWJC-02, Drywall with joint compound

Lab ID-Version‡: 11889170-1

Sample Layers	Asbestos Content
White Compound	ND
White Drywall	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Poor

Location: 6109-DWJC-03, Drywall with joint compound

Lab ID-Version‡: 11889171-1

Sample Layers	Asbestos Content
White Compound	ND
White Drywall	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Poor

Location: 6109-CLK-01, Caulk

Lab ID-Version‡: 11889172-1

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

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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".

Client: Tetra Tech-KCMO

C/O: Mr. Jeffrey Mitchell

Re: 103G65210190.02.05; Pine Lawn, 6109 Natural
Bridge Rd

Date of Sampling: 09-29-2020

Date of Receipt: 10-02-2020

Date of Report: 10-06-2020

ASBESTOS PLM REPORT**Location: 6109-CLK-02, Caulk**

Lab ID-Version‡: 11889173-1

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

Location: 6109-RF-01, Roof flashing

Lab ID-Version‡: 11889174-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 10% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RF-02, Roof flashing

Lab ID-Version‡: 11889175-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 10% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RF-03, Roof flashing

Lab ID-Version‡: 11889176-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Black Roofing Tar and Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 10% Glass Fibers
Sample Composite Homogeneity:	Poor

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Client: Tetra Tech-KCMO

C/O: Mr. Jeffrey Mitchell

Re: 103G65210190.02.05; Pine Lawn, 6109 Natural
Bridge Rd

Date of Sampling: 09-29-2020

Date of Receipt: 10-02-2020

Date of Report: 10-06-2020

ASBESTOS PLM REPORT**Location: 6109-RR-01, Rolled roofing**

Lab ID-Version‡: 11889177-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 15% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RR-02, Rolled roofing

Lab ID-Version‡: 11889178-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 15% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RR-03, Rolled roofing

Lab ID-Version‡: 11889179-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	45% Cellulose 15% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RS-01, Roof shingles

Lab ID-Version‡: 11889180-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Poor

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Client: Tetra Tech-KCMO

C/O: Mr. Jeffrey Mitchell

Re: 103G65210190.02.05; Pine Lawn, 6109 Natural
Bridge Rd

Date of Sampling: 09-29-2020

Date of Receipt: 10-02-2020

Date of Report: 10-06-2020

ASBESTOS PLM REPORT**Location: 6109-RS-02, Roof shingles**

Lab ID-Version‡: 11889181-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RS2-01, Roof shingles

Lab ID-Version‡: 11889182-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 6109-RS2-02, Roof shingles

Lab ID-Version‡: 11889183-1

Sample Layers	Asbestos Content
Black Roofing Shingle	ND
Black Roofing Felt	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Poor

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CHAIN OF CUSTODY



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

CONTACT INFORMATION

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

PROJECT INFORMATION

Project ID:	103G65210190.02.05	STD - Standard (DEFAULT)	TURN AROUND TIME CODES (TAT)
Project Description:	Pine Lawn - 6109 Natural Bridge Rd	ND - Next Business Day	Flushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Zip:	63120	Sampling Date & Time:	9/24/2010 10:00 AM
PO Number:		Sampled By:	Bethany Gault Ryan Slawka

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume (Air Samples only)	Notes
6109-DUST-01	Drywall/joint compound	B	STD	NA	Stop on 1 st Positive
6109-DUST-02		B	STD	NA	Stop on 1 st Positive
6109-DUST-03		B	STD	NA	Stop on 1 st Positive
6109-CLK-01	ceiling	B	STD	NA	Stop on 1 st Positive
6109-CLK-02		B	STD	NA	Stop on 1 st Positive
6109-CLK-03	Roof flashing	B	STD	NA	Stop on 1 st Positive
6109-RF-01		B	STD	NA	Stop on 1 st Positive
6109-RF-02		B	STD	NA	Stop on 1 st Positive
6109-RF-03		B	STD	NA	Stop on 1 st Positive
6109-RF-04	Roof flashing	B	STD	NA	Stop on 1 st Positive
6109-RF-05		B	STD	NA	Stop on 1 st Positive
6109-RF-06		B	STD	NA	Stop on 1 st Positive
6109-RF-07		B	STD	NA	Stop on 1 st Positive
6109-RF-08		B	STD	NA	Stop on 1 st Positive
6109-RF-09		B	STD	NA	Stop on 1 st Positive
6109-RF-10		B	STD	NA	Stop on 1 st Positive
6109-RF-11		B	STD	NA	Stop on 1 st Positive
6109-RF-12		B	STD	NA	Stop on 1 st Positive
6109-RF-13		B	STD	NA	Stop on 1 st Positive
6109-RF-14		B	STD	NA	Stop on 1 st Positive
6109-RF-15		B	STD	NA	Stop on 1 st Positive
6109-RF-16		B	STD	NA	Stop on 1 st Positive
6109-RF-17		B	STD	NA	Stop on 1 st Positive
6109-RF-18		B	STD	NA	Stop on 1 st Positive
6109-RF-19		B	STD	NA	Stop on 1 st Positive
6109-RF-20		B	STD	NA	Stop on 1 st Positive
6109-RF-21		B	STD	NA	Stop on 1 st Positive
6109-RF-22		B	STD	NA	Stop on 1 st Positive
6109-RF-23		B	STD	NA	Stop on 1 st Positive
6109-RF-24		B	STD	NA	Stop on 1 st Positive
6109-RF-25		B	STD	NA	Stop on 1 st Positive
6109-RF-26		B	STD	NA	Stop on 1 st Positive
6109-RF-27		B	STD	NA	Stop on 1 st Positive
6109-RF-28		B	STD	NA	Stop on 1 st Positive
6109-RF-29		B	STD	NA	Stop on 1 st Positive
6109-RF-30		B	STD	NA	Stop on 1 st Positive
6109-RF-31		B	STD	NA	Stop on 1 st Positive
6109-RF-32		B	STD	NA	Stop on 1 st Positive
6109-RF-33		B	STD	NA	Stop on 1 st Positive
6109-RF-34		B	STD	NA	Stop on 1 st Positive
6109-RF-35		B	STD	NA	Stop on 1 st Positive
6109-RF-36		B	STD	NA	Stop on 1 st Positive
6109-RF-37		B	STD	NA	Stop on 1 st Positive
6109-RF-38		B	STD	NA	Stop on 1 st Positive
6109-RF-39		B	STD	NA	Stop on 1 st Positive
6109-RF-40		B	STD	NA	Stop on 1 st Positive
6109-RF-41		B	STD	NA	Stop on 1 st Positive
6109-RF-42		B	STD	NA	Stop on 1 st Positive
6109-RF-43		B	STD	NA	Stop on 1 st Positive
6109-RF-44		B	STD	NA	Stop on 1 st Positive
6109-RF-45		B	STD	NA	Stop on 1 st Positive
6109-RF-46		B	STD	NA	Stop on 1 st Positive
6109-RF-47		B	STD	NA	Stop on 1 st Positive
6109-RF-48		B	STD	NA	Stop on 1 st Positive
6109-RF-49		B	STD	NA	Stop on 1 st Positive
6109-RF-50		B	STD	NA	Stop on 1 st Positive

SAMPLE TYPE CODES		RELINQUISHED BY		DATE & TIME		RECEIVED BY		DATE & TIME	
A - Air	W - Wipe			9/30/2010				10-2-20 10:00	
B - Bulk	T - Tape								
D - Dust	R - Rock								
SO - Soil	O - Other:								

ASBESTOS ANALYSIS

REQUESTED SERVICES

002494550

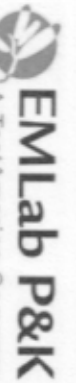
PCM Air	Bulk	Soil
Fiber Count (NIOSH 7400)		
OSHA with TWA		
EPA Method 600/R-93/116		
EPA Point Count (200 Point Count)		
EPA Point Count (400 Point Count)		
EPA Point Count (1000 Point Count)		
Gravimetric Point Count		
CARB 435 Method (Pre-crushed Sample)		
CARB 435 Method (Regular Sample)		
Lead Analysis		

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ASBESTOS /

REQUESTED SERVICE:

PCM
Air

Bulk

Soil



PLM 002494550

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:	103G65210190.02.05	TURN AROUND TIME CODES (TAT)	STD - Standard (DEFAULT)
Project Description:	Pine Lawn - 6109 Natural Bridge	ND - Next Business Day	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 Zip:	63120	SD - Same Business Day Rush*	
PO Number:		Sampled By:	Ryan Standa

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume (Air Samples only)	Notes
6109-RS-01	Roof Shingles	B	STD	NA	Stop on 1st Positive
6109-RS-02		B	STD	NA	Stop on 1st Positive
6109-RS2-01		B	STD	NA	Stop on 1st Positive
6109-RS2-02		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive
		B	STD	NA	Stop on 1st Positive

Fiber Count (NIOSH 7400)	OSHA with TWA	EPA Method 600/R-93/116	EPA Point Count (200 Point Count)	EPA Point Count (400 Point Count)	EPA Point Count (1000 Point Count)	Gravimetric Point Count	CARB 435 Method (Pre-crushed Sample)	CARB 435 Method (Regular Sample)	Lead Analysis
		X							
		X							
		X							
		X							
		X							
		X							
		X							
		X							
		X							
		X							
		X							

SAMPLE TYPE CODES		RELINQUISHED BY		DATE & TIME	
A - Air	W - Wipe			9/30/2020	
B - Bulk	T - Tape				
D - Dust	R - Rock				
SO - Soil	O - Other				
		RECEIVED BY		DATE & TIME	
				10-2-20 10:00	

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