

Asbestos-Containing Materials Inspection
528 Virginia Avenue
Ann Arbor, Michigan 48103

Ann Arbor Housing Development Corporation

April 4, 2023

ASTI ENVIRONMENTAL



Asbestos-Containing Materials Inspection
528 Virginia Avenue
Ann Arbor, Michigan 48103

April 4, 2023

Report Prepared For:

Ann Arbor Housing Development Corporation
c/o Jennifer Hall
2000 S. Industrial Highway
Ann Arbor, Michigan 48104

Report Prepared By:

ASTI Environmental
10448 Citation Drive, Suite 100
Brighton, Michigan 48116
1-800-395-ASTI

ASTI Project No. 12703

Report Prepared by:



Jelaine D. Tinsley
Asbestos Inspector (A16395)

Report Reviewed by:



David A. Amir, EP
Director-Site Redevelopment Services



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Executive Summary

ASTI Environmental (ASTI) was retained by Ann Arbor Housing Development Corporation to conduct an asbestos-containing materials (ACMs) inspection of the buildings located at 528 Virginia Avenue, Ann Arbor, Washtenaw County, Michigan (Subject Property). ASTI's scope of work included sampling of suspect ACMs in general conformance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61 Subpart M. The building's attached garage was locked and was not inspected. The services provided by ASTI in completing this assessment have been provided in a manner consistent with the normal standards of the profession. No other warranties, expressed or implied, are made.

The structure inspected consists of an approximately 2,800 square feet, 2-story building with a gabled roof and attached garage. Based on the inspection conducted by ASTI on March 7, 2023, the following ACMs were identified on the Subject Property:

Asbestos-Containing Materials Quantities

MATERIAL	LOCATION	ESTIMATED QUANTITY
9" x 9" vinyl floor tile / Beige	Beneath carpet in bedroom 3 and likely throughout 528 - unit 1	1,200 ft ²

Presumed Asbestos-Containing Materials

During completion of the inspection, roofing materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestos-containing materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

Presumed Asbestos-Containing Materials Summary

MATERIAL	LOCATION	ESTIMATED QUANTITY
Roofing Materials	Throughout the building	2,100 ft ²

1.0 INTRODUCTION

ASTI Environmental (ASTI) was retained by Ann Arbor Housing Development Corporation to conduct an asbestos-containing materials (ACM) inspection at 528 Virginia Avenue, Ann Arbor, Washtenaw County, Michigan (Subject Property). Refer to the attached Site Location Map for the approximate location of the Subject Property. The information and opinions rendered in this report are prepared for the benefit of Ann Arbor Housing Development Corporation; ASTI acknowledges that said parties may rely upon the contents and conclusions presented in this report. The services provided by ASTI in completing this assessment have been provided in a manner consistent with the normal standards of the profession. No other warranties, expressed or implied are made.

2.0 LIMITATION AND EXCEPTIONS

ASTI's scope of work included sampling of suspect homogeneous ACMs in general conformance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61 Subpart M and ASTM E2356-10 Standard Practice for Comprehensive Building Asbestos Surveys. Suspect materials not identified within this report may be encountered in inaccessible wall cavities, chases, floor cavities, etc. during demolition activities. These materials must be presumed to be ACM until they can be sampled and analyzed for asbestos content.

- The building's attached garage was locked and was not inspected.
- Hollow concrete block was used in the construction of the building. The possibility exists for suspect ACM insulation to be present inside the concrete block. If during demolition/renovation material is found within the concrete block it should be assumed to be ACM until it can be sampled and analyzed for asbestos content.
- Carpeted areas were identified throughout the building in the living rooms, dining rooms, and bedrooms. ASTI pulled back carpet in the corners of several locations and observed that the carpeting overlaid hardwood in unit 2, Beige floor tile was found in unit 1. Should additional flooring materials be encountered during carpet removal, the flooring and any associated mastics should be presumed to contain asbestos until tested and proven otherwise.
- Due to the age of the building and the use of a boiler, straight pipe insulation and elbows/fittings may be located in hidden cavities not accessible during the inspection. If any future work, such as renovation or demolition, which would uncover and disturb these materials, the straight pipe insulation and elbows/fittings are considered regulated ACMs and must be removed by a licensed abatement contractor.

3.0 SUBJECT PROPERTY DESCRIPTION

The Subject Property is currently developed with an apartment building containing two (2) units in one (1) building. The building was constructed in 1963. The building is approximately 2,800 square feet and contains two (2) apartment units on two (2) levels. The building is of masonry construction with gable roof. Exterior materials include asphalt shingles, siding, and brick. Interior finish materials include plaster, resilient floor tiles, linoleum, ceramic tile, carpeting, brick, concrete, paint, and glass.

4.0 ASBESTOS-CONTAINING MATERIALS INSPECTION

Ms. Jelaine D. Tinsley (A16395), and Mr. John Schuitema (A51781) of ASTI's Site Redevelopment Services Group conducted the ACMs inspection of the Subject Property located at 528 Virginia Avenue, Ann Arbor, Michigan on March 7, 2023. Copies of the inspectors' resumes and asbestos accreditations are provided in Appendix A.

4.1 Previous Asbestos-Containing Materials Inspections

ASTI is not aware of any previous ACM inspections of the Subject Property.

4.2 Asbestos Inspection Methodology

ASTI's scope of work included sampling of suspect ACMs in accordance with the AHERA and NESHAP protocols. The inspection included a visual inspection of the building in order to identify homogeneous areas of suspect surfacing materials, thermal system insulation, and miscellaneous materials, as well as the sampling of suspect friable and non-friable materials. The following definitions from 40 CFR Part 763 are provided below.

Asbestos-Containing Material (ACM): *any material or product which contains more than one percent asbestos.*

Surfacing Materials (SM): *material that is troweled-on, sprayed-on or otherwise applied to surfaces for acoustical, fireproofing or other purposes.*

Thermal System Insulation (TSI): *material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior components to prevent heat loss or gain, or water condensation or for other purposes.*

Miscellaneous Materials (MM): *interior building material on structural components, structural members or fixtures such as floors and ceilings and does not include surfacing material or thermal system insulation.*

Friable: *material that when dry, may be crumbled pulverized or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized or reduced to powder by hand pressure.*

Non-friable: *material which when dry may not be crumbled, pulverized or reduced to powder by hand pressure.*

Homogeneous areas (HAs): an area of surfacing material, thermal system insulation, or miscellaneous material that is uniform in color and texture.

4.3 Sample Collection

Samples were collected by physically removing a small piece of suspect material and placing it in a marked plastic bag. Samples were collected using wet methods, as appropriate. The sample collection tool was cleaned prior to each use to avoid cross-contamination of samples. ASTI sampled a variety of materials for asbestos testing. The material types sampled are listed below.

- Linoleum and associated mastic (various types)
- Plaster
- Plank flooring
- Tile grout (various types)
- Caulk (various types)
- Sink undercoating
- 9" x 9" Floor tile and associated mastic
- Brick Mortar

ASTI collected 27 bulk samples from the suspect ACMs. A total of 33 sample layers were analyzed. One sample layer was point counted. The bulk samples were transmitted under chain-of-custody protocol to Apex Laboratory in Whitmore Lake, Michigan or asbestos analysis using polarized light microscopy with dispersion staining (PLM/DS) in accordance with the US Environmental Protection Agency's (US EPA's) "Interim Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93/116, June 1993). Sample results are presented in the attached Table 1.

4.4 Laboratory Analytical Results

Building materials identified to contain greater than 1% asbestos are defined as ACMs. Review of the asbestos test results revealed that the following ACMs were identified on the Subject Property:

HA	Material/Description	Location	Asbestos Result
10	9" x 9" vinyl floor tile / Beige	Beneath carpet in bedroom 3 and likely throughout 528 - unit 1	1.75% Chrysotile (PC)

PC = Point Counting

A comprehensive list of sampled materials with analytical results is provided as Table 1. A copy of the laboratory data sheets, along with the chain-of-custodies are included in Appendix B.

Asbestos-Containing Materials Quantities

MATERIAL	LOCATION	ESTIMATED QUANTITY
9" x 9" vinyl floor tile / Beige	Beneath carpet in bedroom 3 and likely throughout 528 - unit 1	1,200 ft ²

4.5 Presumed Asbestos-Containing Materials

During completion of the inspection, roofing materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestos-containing materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

Presumed Asbestos-Containing Materials Summary

MATERIAL	LOCATION	ESTIMATED QUANTITY
Roofing Materials	Throughout the building	2,100 ft ²

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the inspection completed at the Subject Property by ASTI on March 7, 2023, ACMs were identified in the buildings. A summary of the ACMs identified, along with ASTI's recommendations are as follows:

MATERIAL	LOCATION	ESTIMATED QUANTITY
9" x 9" vinyl floor tile / Beige	Beneath carpet in bedroom 3 and likely throughout 528 - unit 1	1,200 ft ²

According to classification guidelines set forth in NESHAP, the 9" x 9" vinyl floor tile is classified as a Category I non-friable ACM. This material in it's current condition represents minimal risk of fiber release. If renovation or demolition would disturb this material, ASTI recommends the ACM be removed by a licensed abatement contractor prior to disturbance.

Presumed Asbestos-Containing Materials

During completion of the inspection, roofing materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestos-containing materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

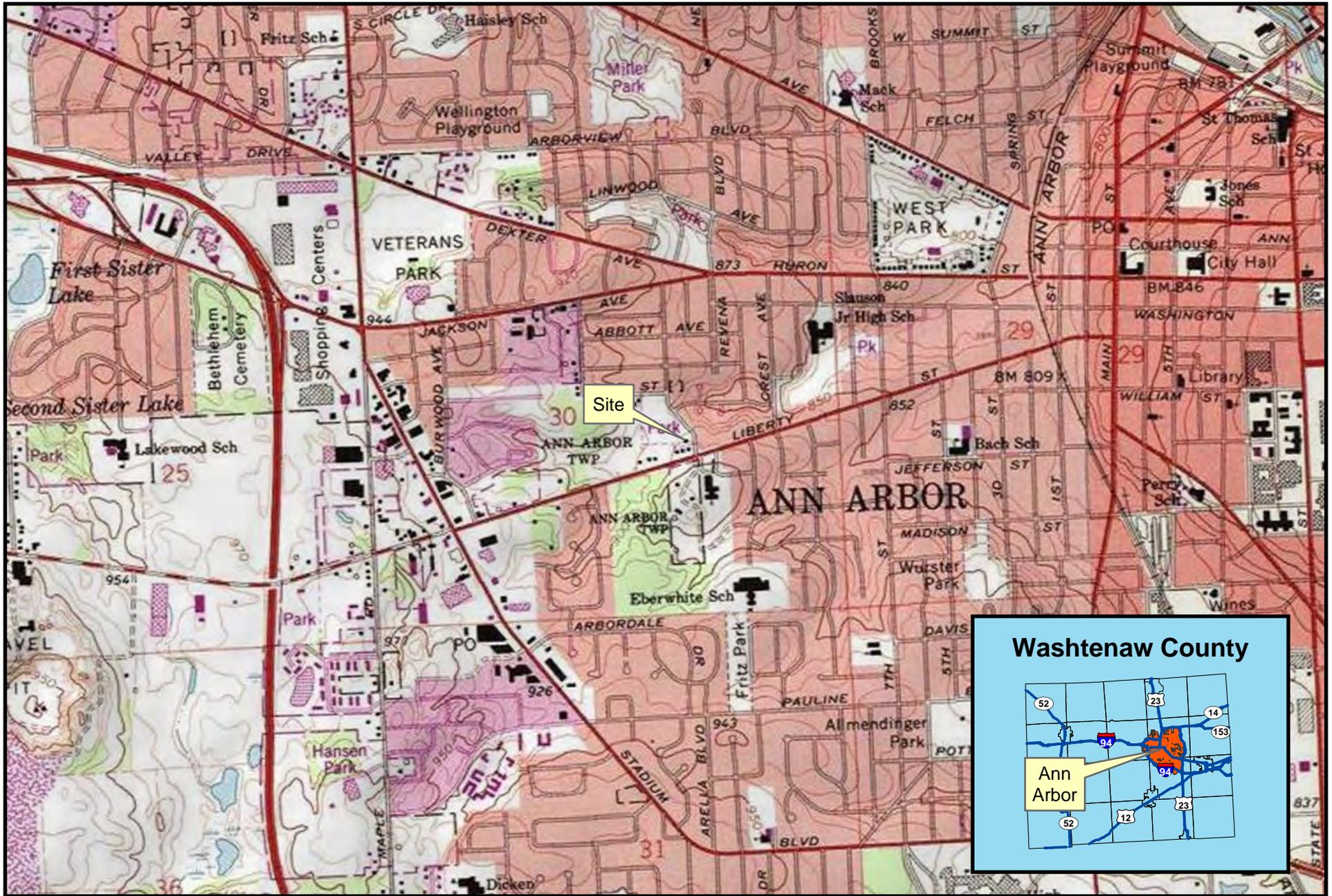
Presumed Asbestos-Containing Materials Summary

MATERIAL	LOCATION	ESTIMATED QUANTITY
Roofing Materials	Throughout the building	2,100 ft ²

According to classification guidelines set forth in NESHAP, the roofing materials are assumed to contain asbestos and are classified as Category II non-friable ACMs. Until testing of these materials is completed, they should be treated as Category II non-friable ACMs.

Figures

Site Location Map



528 Virginia Avenue

Ann Arbor, MI

2,000 1,000 0

2,000

Feet



Tables

- 1 Asbestos Sample Results

Table 1
Asbestos Sample Results
528 Virginia Avenue
Ann Arbor, MI
ASTI Project No: 12703

ASTI Sample ID	Material/Description	Sample Location	Asbestos Result
1A	Linoleum / Brown w/Brown Lines	528-2 Laundry Room	NAD
1B	Linoleum / Brown w/Brown Lines	528-2 Laundry Room	NAD
2A	Plaster Finish Coat / White	528-2 Laundry Room	NAD
	Plaster Base Coat / Grey		NAD
2B	Plaster Finish Coat / White	528-2 Bed 1	NAD
	Plaster Base Coat / Grey		NAD
2C	Plaster Finish Coat / White	528-2 Bed 2	NAD
	Plaster Base Coat / Grey		NAD
2D	Plaster Finish Coat / White	528-1 Laundry	NAD
	Plaster Base Coat / Grey		NAD
2E	Plaster Finish Coat / White	528-2 Hall	NAD
	Plaster Base Coat / Grey		NAD
3A	Vinyl Plank Floor Tile / Tan/Brown Faux Wood	528-2 Hall	NAD
	Mastic & Backing		NAD
3B	Vinyl Plank Floor Tile / Tan/Brown Faux Wood	528-2 Kitchen	NAD
4A	Tile Grout / Grey	528-2 1/2 Bath	NAD
4B	Tile Grout / Grey	528-2 1/2 Bath	NAD
5A	Tile Grout / White	528-2 Full Bath Walls	NAD
5B	Tile Grout / White	528-2 Full Bath	NAD
6A	Caulk / White	528-2 Bathroom	NAD
6B	Caulk / White	528-2 Bathroom	NAD
7A	Linoleum / Beige/Brown & Rust Spots	528-1 Kitchen	NAD
7B	Linoleum / Beige/Brown & Rust Spots	528-1 Kitchen	NAD
8A	Sink Undercoat / Black	528-1 Kitchen	NAD
8B	Sink Undercoat / Black	528-1 Kitchen	NAD
9A	Linoleum / Beigew/White Lines & Mastic	528-1 Laundry Room	NAD
9B	Linoleum / Beigew/White Lines & Mastic	528-1 Laundry Room	NAD
10A	9"x9" Floor Tile / Beige	528-1 Bedroom 3	1.75% Chrysotile (PC)
	Mastic		NAD
10B	9"x9" Floor Tile / Beige	528-1 Bedroom 3	NA
	Mastic		NAD
11A	Brick Mortar / Grey	Exterior wall south side	NAD
11B	Brick Mortar / Grey	Exterior wall east side	NAD
12A	Exterior Caulk / White	Exterior window south side	NAD
12B	Exterior Caulk / White	Exterior window north side	NAD

F = Friable
 NF = Non Friable
 NA=Not Analyzed

LF = Linear Feet
 SF = Square Feet
 NQ=Not Quantified

Shaded = Positive for asbestos
 NAD = No Asbestos Detected
 PC=Point Counted

Appendix A

Resumes and Accreditations of the Inspectors



JELAINE D. TINSLEY
Environmental Professional

PROFILE

Certifications/Licenses

NIOSH 582-Equivalent Course Sampling and Analysis of Airborne Asbestos Fibers
OSHA 29 CFR 1910.120 HAZWOPER 40-Hour and 8-Hour Refresher
Asbestos Inspector-Michigan (License No. A16395)
Asbestos Inspector-Illinois (License No. 100-19756)
Asbestos Inspector-Indiana (License No. 19A007625)
Asbestos Hazard Evaluation Specialist-Ohio (License No.ES36108)
Asbestos Inspector / Management Planner-Kentucky (License No. 66369)
Asbestos Inspector-West Virginia (License No. AIO10697)
Asbestos Project Designer-Michigan (License No. A16395)
Certified Confined Space Entrant and Attendant
American Red Cross First Aide and Adult CPR Certified
ASTM Certification in RBCA Applied at Petroleum Release Sites
Michigan Provisional Teaching Certificate

Education

Western Michigan University, B.S., Earth Science and Education

Experience History

Environmental Professional, ASTI ENVIRONMENTAL
Project Manager, Yeoman Group
Project Manager, A&F Environmental
Environmental Consultant, DLZ Corporation
Environmental Consultant, AKT Peerless
Geologist, ATC Associates
Geologist, NUS Corporation
Teacher, Detroit Public Schools
Staff Scientist, CTI and Associates, Inc.

Professional Memberships and Service

Michigan Association of Environmental Professionals (MAEP)
Commercial Real Estate Women Detroit (CREW)

Professional Background

Ms. Tinsley has more than 33years' experience in the environmental industry in a variety of areas including Phase I environmental site assessments (ESAs), Phase II ESAs, baseline environmental assessments (BEAs), subsurface investigations (soil and groundwater testing), soil and groundwater evaluations, asbestos and mold inspections, abatement oversight, and specification development. Ms. Tinsley has also coordinated numerous hazardous material and pre-demolition surveys which included evaluations of asbestos, mold, radon and universal wastes for municipal, commercial, and industrial facilities.

Years' Experience:

8—ASTI ENVIRONMENTAL
25—other firms

ENVIRONMENTAL DUE DILIGENCE AND SITE INVESTIGATION PROJECTS

Environmental Site Assessments

Completed numerous site assessments for a variety of projects (vacant land, agricultural, residential, commercial, and industrial) to determine the environmental condition of sites for real estate transactions. Projects involved both surface and subsurface evaluations of sites for a variety of hazardous substances. Responsibilities included the preparation and/or review of ASTM Phase I and Phase II ESAs, Baseline Environmental Assessments (BEAs), and Due Care Plans. Ms. Tinsley has experience working in Michigan, Illinois, Indiana, Ohio, Kentucky, Tennessee, Georgia, Alabama, Mississippi, and Florida. Ms. Tinsley also has performed listing site evaluations for a dedicated contractor to the US EPA. Ms. Tinsley is also knowledgeable with All Appropriate Inquiries (AAI) per 40 CFR Part 312 and meets the requirements of an Environmental Professional per AAI.

Customer Training

Provided training for financial institutions on the types of properties that should have environmental evaluations.

Vapor Intrusion Evaluation, Jackson, Michigan

Conducted vapor intrusion studies at commercial properties to assess potential vapor migration. Scope of work included coordination of vapor intrusion points, vapor sample collection, and coordination of chemical testing.

CONSTRUCTION TESTING

Conducted construction material analysis which included soil proctors, soil sieve analysis, asphalt extractions, and concrete stress testing.

ASBESTOS INSPECTIONS AND ABATEMENT COORDINATION/OVERSIGHT

Responsible for asbestos program management including coordination and technical lead for hazardous material surveys and asbestos and mold related testing activities.

Asbestos Inspections, City of Detroit Neighborhood Redevelopment Project

Inspector of asbestos hazards at over 300 residential and commercial properties. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Detroit with findings and compliance requirements.

Asbestos Inspections, City of Inkster Neighborhood Redevelopment Project

Conducted asbestos inspections at over 100 residential and commercial properties. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Inkster with findings and compliance requirements.

Large Hotel Detroit, Michigan

Inspected the hotel property as part of a team. Collected samples, reviewed laboratory analysis, and provided client a report of methods and findings. Performed oversight of ACM abatement.

Medical Complex Kalamazoo, Michigan

Responsible for coordination of field activities for the ACM abatement of the complex. Conducted schedule and strategy meetings.

Hotel, Detroit, Michigan

Inspected the hotel property. Collected samples, reviewed laboratory analysis, and provided client a report of methods and findings.

Former Coal Power Plant

Conducted a thorough asbestos inspection of an inactive multi-building coal power plant in Detroit, Michigan. Collected samples, and performed thorough photo documentation and quantification of all ACMs in the power plant and supporting buildings.

UNDERGROUND STORAGE TANKS AND PETROLEUM REMEDIATION PROJECT

Commercial Development Royal Oak, Michigan

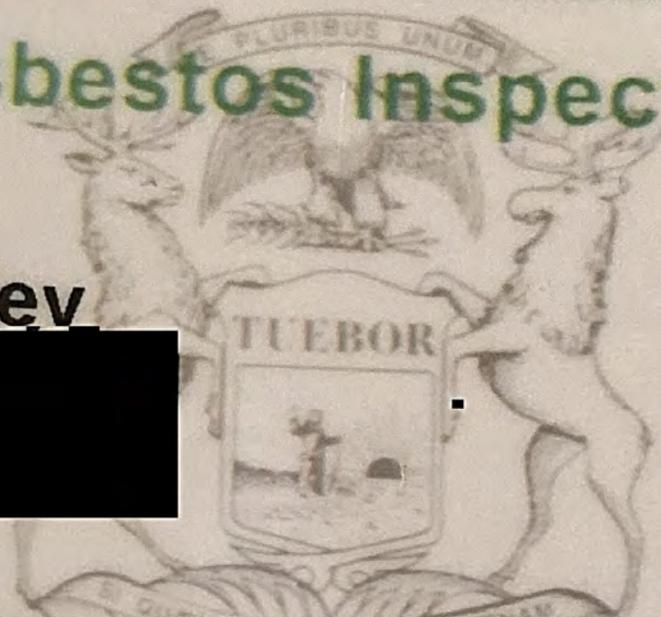
Coordinated the remediation of a former gasoline service station, during site development for a commercial company. Work included Phase I ESA and Phase II site investigation to evaluate USTs and hoists onsite, as well as coordinating a GPR survey for additional USTs on site, a BEA, and a Due Care Plan. Assisted with the development bid specifications for site remediation activities including UST and hoist removal, soil remediation, and asbestos abatement. Coordinated the removal of five (5) USTs, one in-ground hoist, and 300,000 cubic yards of petroleum-impacted soils.

State of Michigan

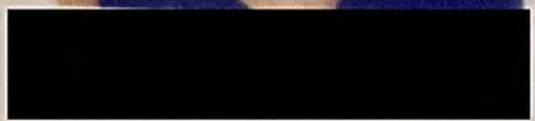
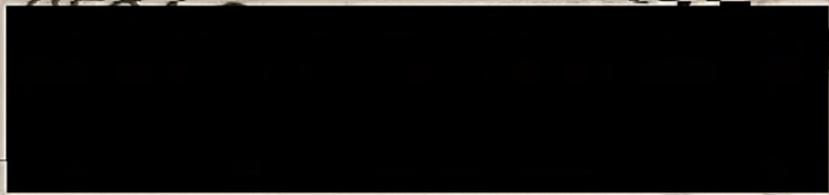
Department of Labor and Economic Opportunity

Michigan Occupational Safety & Health Administration - Asbestos Program

Asbestos Inspector



Jelaine D. Tinslev



Accreditation Number

A16395

Expiration Date

09/26/2023

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Accreditation card is not valid if altered.

159722



JOHN F. SCHUITEMA
Associate II

PROFILE

Certifications

Asbestos Inspector (A51781)
Michigan Lead Inspector/Risk Assessor (P-07409)
ICC Property Maintenance Inspector
ICC Zoning Inspector
40-Hour OSHA HAZWOPER Training
8-Hour OSHA HAZWOPER Refresher

Education

Lead Inspector/Risk Assessor Training
Asbestos Awareness Training
Lead Awareness Training
Asbestos Inspector Training

Experience History

Associate I, ASTI Environmental
Field Technician, ASTI Environmental
Government

Professional Background

Mr. Schuitema has experience in the field with soil sampling, lead dust sampling, asbestos surveys, air monitoring, hazardous materials surveys, and lead inspections. Mr. Schuitema has assisted with Phase II investigations, property condition assessments, mold sampling, indoor air quality assessments, moisture operation and maintenance plans, and performed health and safety related building inspections.

Years' Experience:

5—ASTI ENVIRONMENTAL
3—Government

ENVIRONMENTAL DUE DILIGENCE AND SITE INVESTIGATION PROJECTS

Environmental Site Assessments

Completed numerous site assessments for a variety of projects (vacant land, agricultural, residential, commercial, and industrial), to determine the environmental condition of sites for real estate transactions. Projects involved both surface and subsurface evaluations of sites for a variety of hazardous substances.

ASBESTOS AND LEAD INSPECTION AND RISK ASSESSMENTS

Responsible for asbestos inspections and lead inspections and risk assessments on commercial, multi-family, and single-family properties.

Lead Based Paint Inspections and Risk Assessments, Flint Housing Commission

Inspection of lead hazards throughout Flint's public housing complexes, dust wipe sample collection for laboratory analysis, XRF sampling, and writing the report to the Flint Housing Commission with findings and compliance requirements.

Large Apartment Complex in Flint, Michigan

Conducted asbestos inspections of over 100 residential units. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Flint with findings and compliance requirements.

INDOOR AIR QUALITY AND MOLD

Conducted mold assessments and verification sampling on municipal buildings, schools, and private facilities in the State of Michigan. Assessment scopes included mold identification and moisture infiltration, abatement scope design, and post abatement visual inspection and clearance sampling.

Conducted visual and indoor air quality clearance samples for multiple residential homes following ACM removal, prior to demolition, throughout the State of Michigan.

Highrise Apartment Building Detroit, Michigan

Monitored indoor air quality during removal of asbestos containing materials. Provided clearance air sampling upon completion.

Multiple School Buildings Detroit, Michigan

Performed visual inspection, tape lift samples, air sampling, and moisture readings to evaluate potential mold growth. Completed clearance inspection and

sampling after remediation and provided the client with a report of methods and findings.

PROPERTY CONDITION ASSESSMENTS

Completed inspections of commercial, industrial, and residential properties in the State of Michigan. Identified physical deficiencies, material defects, and deferred maintenance. Reported findings, including cost estimates for repairs and replacements deemed necessary.

STORM WATER INSPECTIONS

Performed inspections of construction sites to determine compliance with state storm water regulations. Reported deficiencies and recommend remedies.

Large Apartment Complex Howell, Michigan

Conducted weekly inspections during construction to ensure compliance with construction storm water regulations. Provided weekly report with findings, deficiencies, and remedy options to the client and County.

WASTEWATER OPERATIONS

Super Fund Site, St. Joseph, Michigan

Performed monthly maintenance and sampling to insure proper operation and compliance with applicable regulations. Maintained air stripper and CatOx system for removal of VOCs from contaminated groundwater.

AIR MONITORING

Former McLouth Steel Site, Trenton, Michigan

Operated outdoor air monitoring and sampling stations to ensure chemicals of concern and fugitive dust did not leave the property. Performed real time air monitoring during demolition activities.

MICHIGAN MICHIGAN
State of Michigan
Department of Labor and Economic Opportunity
Michigan Occupational Safety & Health Administration - Asbestos Program

Asbestos Inspector

John F. Schuitema
[Redacted]

Accreditation Number
A51781

Expiration Date
02/27/2024

Accreditation card is not valid if [Redacted] 162957

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Appendix B

Results of Asbestos Sample Analysis and Chain of Custody

Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project: 528 Virginia
Project #: 12703

Report To:

Mr. David Amir
ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 01 Cust. #: 1A Material: Linoleum-Brown w/Brown Lines Location: 528-2 Laundry Room Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%
Lab ID #: 103616 - 02 Cust. #: 1B Material: Linoleum-Brown w/Brown Lines Location: 528-2 Laundry Room Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%
Lab ID #: 103616 - 03 Cust. #: 2A Material: Plaster Finish Coat-White Location: 528-2 Laundry Room Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 40 CFR - Part 763 and/or EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples as submitted and to insure the integrity of the results, may only be reproduced in full. This certificate must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

APEX Research Inc., 11054 Hi Tech Drive, Whitmore Lake, MI 48189
(734) 449-9990, Fax (734) 449-9991

Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project: 528 Virginia
Project #: 12703

Report To:

Mr. David Amir
ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 03a Cust. #: 2A Material: Plaster Base Coat-Grey Location: 528-2 Laundry Room Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 04 Cust. #: 2B Material: Plaster Finish Coat-White Location: 528-2 Bed 1 Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 04a Cust. #: 2B Material: Plaster Base Coat-Grey Location: 528-2 Bed 1 Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 40 CFR - Part 763 and/or EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples as submitted and to insure the integrity of the results, may only be reproduced in full. This certificate must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

APEX Research Inc., 11054 Hi Tech Drive, Whitmore Lake, MI 48189
(734) 449-9990, Fax (734) 449-9991

Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project: 528 Virginia
Project #: 12703

Report To:

Mr. David Amir
ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 05 Cust. #: 2C Material: Plaster Finish Coat-White Location: 528-2 Bed 2 Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 05a Cust. #: 2C Material: Plaster Base Coat-Grey Location: 528-2 Bed 2 Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 06 Cust. #: 2D Material: Plaster Base Coat-Grey Location: 528-1 Laundry Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0

APEX Research Inc., 11054 Hi Tech Drive, Whitmore Lake, MI 48189
(734) 449-9990, Fax (734) 449-9991

Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project: 528 Virginia
Project #: 12703

Report To:

Mr. David Amir
ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 07 Cust. #: 2E Material: Plaster Finish Coat-White Location: 528-1 Laundry Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 07a Cust. #: 2E Material: Plaster Base Coat-Grey Location: 528-1 Laundry Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 08 Cust. #: 3A Material: Vinyl Plank Fl.-Tan/Brown Faux Wood/FT Location: 528-2 Hall Appearance: brown,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Project: 528 Virginia
Project #: 12703

Report To:

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ASTI Environmental
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Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 08a Cust. #: 3A Material: Mastic & Backing Location: 528-2 Hall Appearance: clear,nonfibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 09 Cust. #: 3B Material: Vinyl Plank Fl.-Tan/Brown Faux Wood/FT Location: 528-2 Kitchen Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 10 Cust. #: 4A Material: Tile Grout-Grey Location: 528-2 1/2 Bath Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Project: 528 Virginia
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Report To:

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Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 11 Cust. #: 4B Material: Tile Grout-Grey Location: 528-2 1/2 Bath Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 12 Cust. #: 5A Material: Tile Grout-White Location: 528-2 Full Bath Walls Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 13 Cust. #: 5B Material: Tile Grout-White Location: 528-2 Full Bath Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 14 Cust. #: 6A Material: Caulk-White Location: 528-2 Bathroom Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 15 Cust. #: 6B Material: Caulk-White Location: 528-2 Bathroom Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 16 Cust. #: 7A Material: Linoleum-Beige, Brown & Rust Spots Location: Kitchen Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Synthetic - 5% Wollastonite - 2% Other - 68%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 17 Cust. #: 7B Material: Linoleum-Beige, Brown & Rust Spots Location: Kitchen Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Synthetic - 5% Wollastonite - 2% Other - 68%
Lab ID #: 103616 - 18 Cust. #: 8A Material: Sink Undercoat-Black Location: Kitchen Appearance: black, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 19 Cust. #: 8B Material: Sink Undercoat-Black Location: Kitchen Appearance: black, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

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Brighton, MI 48116

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Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 20 Cust. #: 9A Material: Linoleum-Beige w/White Lines/ & Mastic Location: Laundry Room Appearance: beige,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 21 Cust. #: 9B Material: Linoleum-Beige w/White Lines/ & Mastic Location: Laundry Room Appearance: black,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 22 Cust. #: 10A Material: 9x9 Floor Tile-Beige Location: Bedroom 3 Appearance: grey,fibrous,homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 2%	Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

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Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 22a Cust. #: 10A Material: Mastic Location: Bedroom 3 Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 23 Cust. #: 10B Material: 9x9 Floor Tile-Beige Location: Bedroom 3 Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 103616 - 23a Cust. #: 10B Material: Mastic Location: Bedroom 3 Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

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Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 24 Cust. #: 11A Material: Brick Mortar-Grey Location: Exterior Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 25 Cust. #: 11B Material: Brick Mortar-Grey Location: Exterior Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 26 Cust. #: 12A Material: Ext. Caulk-White Location: Exterior Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Robert T. Letarte Jr., Laboratory Director

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ASTI Environmental
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Brighton, MI 48116

ARI Report # 23-103616
Date Collected: 03/07/23
Date Received: 03/09/23
Date Analyzed: 03/13/23
Date Reported: 03/14/23

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 103616 - 27 Cust. #: 12B Material: Ext. Caulk-White Location: Exterior Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 103616 - 22pc Cust. #: 10A Material: 9x9 Floor Tile-Beige Location: Bedroom 3 Appearance: grey,fibrous,homogenous Layer: of	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Other - 98.25%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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APEX Research, Inc.



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Customer Name: ASTI
 Address: 10448 Citation Dr.
 City, St., Zip: Brighton, MI, 48169
 Phone: 810-225-2800 Fax: _____

Date of Survey: 3/7/2023
 Project: 528 Virginia
 Project # 12703
 Contact Person: Dave Amir
 Email: damir@asti-env.com jschuitema@asti-env.com

Lab Use Only
 Log-In: _____
 Report: _____
 Fax: _____
 Verbal: _____
 Email: _____

Turn Around Time: (circle one) ***Terms and conditions on the other side.

Circle analyses required, indicate type and quantity

Rush _____ 24 hour _____ Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 48 hour _____ 72 ~~hour~~ _____ Lead / Cad / Chrome: Wipe ASTM E1792? circle YES or NO _____ Air _____ Paint _____ Bulk _____
 Other: _____ TTP / no _____ Mold: Bulk _____ Air/Zefon/AlergenCO2 _____ BioSIS _____ Tape _____
 Samples received after 3pm (Test Till Positive) TEM: Bulk/NOB _____ NIOSH 7402 _____ EPA Level II _____ Other _____

Lab ID	Customer ID #	Material/Location	Volume	Area	Results
	1A	Linoleum - Brown w/ Brown lines -	528-2	Laundry Room	
	1B	"	"		
	2A	Plaster - White over Gray -	528-2	Laundry	
	2B	↓	528-2	Bed 1	
	2C	↓	528-2	Bed 2	
	2D	↓	528-1	Laundry	
	2E	↓	528-1	Laundry	
	3A	Vinyl Plank Flooring - Tan/Brown faux wood -	528-2	Hall	
	3B	"	"	Kitchen	
	4A	Tile Grout - Gray -	528-2 1/2	Bath	
	4B	"	"		RECEIVED
	5A	Tile Grout - White -	528-2	Full Bath walls	MAR 09 2023

Relinquished By: [Signature]

Date: 3/8/2023

Revision R4 Date: May/2017

Received By: KD

Time/Date: 1:00

Relinquished By: _____

Date: _____

Received By: APEX RESEARCH

Time/Date: _____

APEX Research, Inc.



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Customer Name: ASTI
 Address: 10448 Citation Dr.
 City, St., Zip: Brighton, MI, 48169
 Phone: 810-225-2800 Fax: _____

Date of Survey: 3/7/2023
 Project: 528 Virginia
 Project # 12703
 Contact Person: Dave Amir
 Email: damir@asti-env.com jschuitema@asti-env.com

Lab Use Only
 Log-In: _____
 Report: _____
 Fax: _____
 Verbal: _____
 Email: _____

Turn Around Time: (circle one) ***Terms and conditions on the other side.

Circle analyses required, indicate type and quantity

Rush _____ 24 hour _____ Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 48 hour _____ 72 ~~hour~~ _____ Lead / Cad / Chrome: Wipe ASTM E1792? circle YES or NO _____ Air _____ Paint _____ Bulk _____
 Other: _____ TTP ~~yes~~ / no _____ Mold: Bulk _____ Air/Zefon/AlergencoD _____ BioSIS _____ Tape _____
 Samples received after 3pm (Test Till Positive) _____ TEM: Bulk/NOB _____ NIOSH 7402 _____ EPA Level II _____ Other _____

Lab ID	Customer ID #	Material/Location	Volume	Area	Results
	5B	Tile Grout - white - 528-2 Full Bath			
	6A	Grout - white - 528-2 Bathroom			
	6B	" "			
	7A	Linoleum - Beige, Brown & Rust spots - Kitchen			
	7B	" "			
	8A	Sink under coat - Black - Kitchen			
	8B	" "			
	9A	Linoleum - Beige w/ white lines - Laundry Room			
	9B	" "			RECEIVED
	10A	Floor tile - 9x9 - Beige - Bedroom 3			MAR 09 2023
	10B	" "			
	11A	Brick mortar - Gray - Exterior			APEX RESEARCH

Relinquished By: [Signature]
 Date: 7/8/2022

Received By: KD
 Time/Date: 1:00

Relinquished By: _____
 Date: _____

Received By: _____
 Time/Date: _____

APEX Research, Inc.



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Customer Name: ASTI
 Address: 10448 Citation Dr.
 City, St., Zip: Brighton, MI, 48169
 Phone: 810-225-2800 Fax: _____
 Turn Around Time: (circle one) ***Terms and conditions on the other side.

Date of Survey: 3/7/2023
 Project: 528 Virginia
 Project # 12703
 Contact Person: Dave Amir
 Email: damir@asti-env.com jschuitema@asti-env.com
Circle analyses required, indicate type and quantity

Lab Use Only
 Log-In: _____
 Report: _____
 Fax: _____
 Verbal: _____
 Email: _____

Rush _____ 24 hour _____ **Asbestos:** Bulk Wipe _____ Point Count _____ PCM _____
 48 hour _____ 72 ~~hour~~ _____ **Lead / Cad / Chrome:** Wipe ASTM E1792? circle YES or NO _____ Air _____ Paint _____ Bulk _____
 Other: _____ TTP ~~yes~~ / no _____ **Mold:** Bulk _____ Air/Zefon/AlergencoD _____ BioSIS _____ Tape _____
 Samples received after 3pm (Test Till Positive)
 logged in next morning **TEM:** Bulk/NOB _____ NIOSH 7402 _____ EPA Level II _____ Other _____

Lab ID	Customer ID #	Material/Location	Volume	Area	Results
	11B	Brick Mortar - Gray - Exterior			
	12A	Ext Caulk - White - Exterior			
	12B	" "			

Relinquished By: [Signature]
 Date: 3/8/2023

Received By: KD
 Time/Date: 1:00

Relinquished By: _____
 Date: _____

Received By: _____
 Time/Date: _____

Appendix C

Photo Log

PHOTO LOG

528 Virginia Avenue, Ann Arbor, Michigan



Photo 1. A view of the front of 528 Virginia.



Photo 2. View of the side of 528 Virginia.

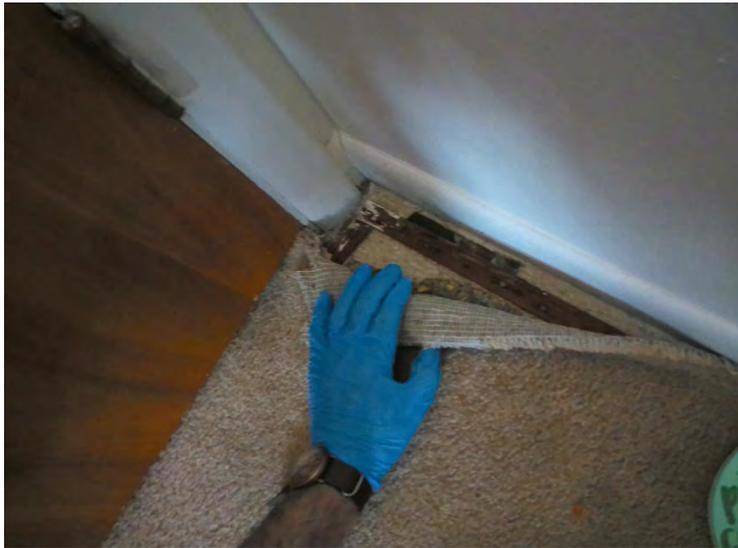


Photo 3. View of the asbestos-containing floor tile beneath the carpet

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ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND
RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.

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- **BROWNFIELD/GREYFIELD REDEVELOPMENT ASSISTANCE**
- **DEVELOPMENT INCENTIVES AND GRANT MANAGEMENT**
- **ECOLOGICAL ASSESSMENTS AND RESTORATION**
- **ENVIRONMENTAL ASSESSMENTS AND IMPACT STATEMENTS**
- **ENVIRONMENTAL OPPORTUNITIES ASSESSMENT**
- **GIS MAPPING**
- **HAZARD MITIGATION PLANNING**
- **MINING AND RECLAMATION ASSISTANCE**
- **REMEDIATION IMPLEMENTATION, OPERATION AND MAINTENANCE**
- **PHASE I ESA AND ENVIRONMENTAL DUE DILIGENCE ASSESSMENTS**
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