

HAWAII ISLAND STRUCTURE DEMOLITION & CLEARING

IFB-22-HHL-020

Section 1	General Specifications
Section 2	Mobilization and Demobilization
Section 3	Pollution Control
Section 4	Site Preparation
Section 5	Scope of Work
Section 6	Maps/ Images/ Additional Available Information

LEGEND:

Contractor— General Contractor as awarded by the Department of Hawaiian Home Lands

DHHL— State of Hawaii Department of Hawaiian Home Lands

DOH— State of Hawaii Department of Health

SECTION 1- GENERAL SPECIFICATIONS

1.1 DESCRIPTION

- A. Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, equipment, and pertinent requested tests; as necessary and required to demolish and complete all work specified herein.
- B. Contractor shall be responsible for obtaining all applicable permits necessary prior to execution of work and ensure proper disposal of all debris at an authorized landfill.
- C. Contractor is responsible for any violations that is incurred during construction activities as a result of their work.

1.2 GENERAL

A. EXAMINATION OF PREMISES

- 1. A pre-bid conference and site inspection is scheduled on Thursday, October 27, 2022.
- 2. The conference and site visit is to provide bidders/offerors with an opportunity to ask questions about the contractual requirements and

technical aspects of the project. A visit to the project sites will follow the pre-bid conference.

3. Attendance of the pre-bid meeting is not a condition for submitting an offer but is strongly recommended.

B. NOTICES

1. The Contractor shall notify DHHL and give at least two (2) weeks' notice in writing before starting any work.
2. The Contractor shall notify DHHL at least three (3) working days, to make a final inspection of the premises for acceptance.

C. HOURS OF WORK

1. Work can be performed at the construction sites between 7:30 am and 4:30 pm, Monday through Friday.
2. Contractor shall submit a proposed construction schedule to the Project Manager for review and approval within 14 calendar days prior to the start of work.
3. The Contractor shall coordinate their schedule with the Project Manager if rescheduling of work or intermittent work is required, such work shall be performed at no extra cost to the State.
4. The contractor shall clean work areas at the end of each working shift. Rubbish, loose materials, etc., shall be disposed of daily.

D. CONTRACTOR'S OPERATIONS

1. The Contractor must employ, insofar as possible, such methods and means of carrying out the work so as not to cause any interruption or interference to the lessee and surrounding neighbors. Including any farming activities.
2. The Contractor shall provide signs as required and maintain safe passageway to and from the premises at all times.

E. PARKING POLICY FOR CONTRACTOR

The Contractor and its employees are responsible to find parking in the surrounding area as long as the vehicles do not impede the traffic in the area.

F. TOILET ACCOMMODATIONS

The Contractor shall provide as needed.

G. PROTECTION OF PROPERTY

1. No field office or storage will be required for this project.
2. The Contractor shall continually maintain adequate protection of all its work from damage and shall protect all property, including but not limited to buildings, fencing, equipment, grounds, vegetation, and material located at and adjoining the job site.
3. The Contractor shall repair, replace, or pay the expense of repair of damages resulting from its operations.

H. USE OF POWER DRIVEN EQUIPMENT

The Contractor shall take all necessary safety precautions to protect the facility personnel, and the public whenever power driven equipment is used.

I. SAFETY

The Contractor shall carefully read and strictly comply with the requirements of the Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes. As amended, is applicable and made a part of the Contract.

J. CLEAN UP PREMISES

The Contractor shall clean up and remove from premises all debris accumulated from operations as necessary or as directed. See also Section 7.25 of the General Conditions.

K. RESPONSIBILITY

1. The State will hold the Contractor liable for all the acts of Subcontractors and shall deal only with the primary Contractor in matters pertaining to other trades employed on the job. The Contractor shall be responsible for coordinating the work of all trades on the job.
2. Should the Contractor discover any discrepancy in the specifications, the Contractor shall immediately notify DHHL before proceeding any further with the work, otherwise, the Contractor will be held responsible for any.

L. SPECIFICATIONS

1. The Contractor shall not make alterations in the specifications. In the event the Contractor discovers any errors or discrepancies, the contractor shall immediately notify DHHL in accordance with the General Conditions.
2. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work. Specifications are prepared in

abbreviated form and include incomplete sentences. Omission of words or phrases such as “the Contractor shall”, “as shown on the drawings”, “a”, “an”, and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.

M. PERMITTING

1. Contractor shall be responsible for obtaining all applicable permits necessary prior to execution of work and ensuring proper disposal of all debris at an authorized landfill.
2. The Contractor shall monitor all activities during construction and provide emergency contact name and cell phone number for duration of project. All material attributed to the demolition shall be removed and taken to an approved disposal location. This location shall be identified in the scope of work.

END OF SECTION

SECTION 2- MOBILIZATION AND DEMOBILIZATION

2.1 MOBILIZATION

Mobilization shall consist of the transporting, assembling, construction, installing and making ready for use at the job site, all the equipment, machinery, structures, utilities, materials, labor and incidentals necessary to do the work covered by this contract.

2.2 DEMOBILIZATION

Demobilization shall consist of dismantling, removal of the above mentioned equipment, machinery, structures, utilities, material, and incidentals, and the cleaning up of the site.

END OF SECTION

SECTION 3- POLLUTION CONTROL

3.1 DESCRIPTION

A. RUBBISH DISPOSAL

1. No burning of debris and/or waste materials shall be permitted on the project site.
2. No burying of debris and/or waste material except for materials which are

specifically indicated elsewhere in these specifications suitable for backfill shall be permitted on the project site.

3. All unusable debris and waste material shall be hauled away to an appropriate off-site dump area and disposal of the debris at a dump site approved by DOH. During loading operations, debris and waste material shall be watered down to control dust.
4. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet mopping, or wet sweeping is permissible.
5. Clean up shall include the collection of all demolished materials and other objectionable material and removal as required. Frequency of clean-up shall coincide with rubbish producing events.

B. DUST

1. Dust fence is required. The Contractor shall prevent dust from becoming airborne at all times including non-working hours, weekends, and holidays in conference with The State Department of Health, Administrative Rules, title 11, Chapter 60- Air Pollution Control.
2. The method of dust control and costs shall be the responsibility of the Contractor. Methods of dust control shall include the use of water, chemicals or asphalt over surfaces which may create airborne dust.
3. The Contractor shall be responsible for all damage claims in accordance with Section 7.16 "Responsibility for Damage Claims" of the GENERAL CONDITIONS.

C. NOISE

1. Noise shall be kept acceptable levels at all times in conformance with the State of Department of Health, Administrative Rules, Title II. The Contractor shall obtain and pay for the Community Noise Permit from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.
2. All internal combustion engine-powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.
3. Starting-up of construction equipment meeting allowable noise limits shall not be done prior to 7:00am.

D. BEST MANAGEMENT PRACTICE

1. Temporary dust fence, barricades and other provisions which may be required because of the Contractor's method of operations shall be installed at no cost to the State.

2. Drainage outlets and silting basins shall be maintained to minimize erosion and pollution of waterways during dust control and cleaning.
3. Barricades and warning signs shall be erected by the Contractor in the work area to properly protect all personnel in the area.

E. OTHERS

1. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement.
2. Trucks hauling debris shall be covered as required by PUC Regulations. Trucks hauling fine materials shall be covered.
3. No dumping or use of chemicals will be permitted at the job-site. Except in an emergency such as a mechanical breakdown. All vehicle fueling and maintenance shall be done in a designated area. Spill kits shall be kept at the job site at all times. A temporary berm shall be constructed around the area when run-off can cause a problem.

F. SUSPENSION OF WORK

1. Violations of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.
2. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by DHHL, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.
3. DHHL may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above-mentioned requirements. In this instance, the work shall be done by force account as described in Subsection 4.2b "Additional Work" of the GENERAL CONDITIONS and paid for in accordance with Subsection 8.4b, Force-Account Work Therein. The count of elapsed working days, 10 shall be charged against the contract in this situation shall be computed in accordance with Subsection 7.18- "Contract Time" of the GENERAL CONDITIONS.

END OF SECTION

SECTION 4- SITE PREPARATION

4.1 DESCRIPTION

- A. The work to be performed under this section shall include testing for hazardous materials (ACM or LBP) prior to the clearing, clearing the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion or the other work included in this contract.

4.2 GENERAL

- A. Maintenance of Traffic; The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, passageways, etc.
- B. When necessary, the Contractor shall provide and erect barriers, etc., with special attention to protection of personnel.
- C. Protection: Throughout the progress of the work protection shall be provided for all property and equipment, and temporary barricades shall be provided as necessary. Work shall be done in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractors of American, and the State of Hawaii's Occupational Safety and Health Standards, Rules and Regulations.
- D. Fines: No burning of fires of any kind will be allowed.
- E. Reference Points: Benchmarks, etc. shall be carefully maintained, but if disturbed or destroyed, shall be replaced as directed, at the Contractor's expense.
- F. Disposal: All materials resulting from operations under this Section shall become the property of the Contractor and shall be removed from the site. Loads of materials shall be trimmed to prevent droppings.

4.3 EXISTING UTILITY LINES

- A. The existence of active underground utility lines within the construction area is not definitely known other than those indicated in their approximate locations on the Drawings. Should any unknown line be encountered during excavation, the Contractor shall immediately notify the Engineer of such discovery. DHHL shall then investigate and issue instructions for the preservation or disposition of the unknown line. Authorization for extra work shall be issued by DHHL only as deemed necessary.

4.4 CLEAN UP OF PREMISES

- A. Clean up and remove all debris accumulated from demolition operations from time-to-time as directed. Upon completion of the construction work and before final acceptance of the contract work, remove all surplus materials, equipment, etc., and

leave entire job site raked clean and free of any wood pieces, nails or paint chips to the satisfaction of the Project Engineer.

END OF SECTION

SECTION 5- SCOPE OF WORK

5.1 DESCRIPTION

- A. Supply all necessary materials, labor, use of tools and equipment to implement, in safe, complete, and acceptable procedures and workmanship, the demolition and removal from the sites of the seven (7) houses listed in section 5.2 – Location of the Work as directed by DHHL and according to the Scope of Work, Specifications, and Hazardous Materials Survey Report.
- B. The General Contractor shall provide the Department of Hawaiian Home Lands (DHHL) with:
- Rodent Control/Dust Control/ Best Management Practices
 - Demolition of Structures
 - Cesspool Pumping, Backfill & Closure (if applicable)
 - Septic Tank Pumping, Backfill & Closure (if applicable)
 - Sewerline Capping/Stub-out above grade sewer lateral (if applicable)
 - Site & Soil Clean up (if applicable)
 - Lot/Vegetation Clearing
 - Removal & Disposal of all waste material
 - **EXCEPTION: 1420 Auwae Road (Panaewa Ag Lot)**
 - Clearing only 10 feet from the property perimeter of entire lot. No Clearing of other vegetation except for 10 ft. Perimeter.

This service will be on mentioned lots on the Eastside of Hawaii Island listed, as directed by the Department of Hawaiian Home Lands (DHHL).

The General Contractor must:

- 5 Obtain necessary permits
- 6 Maintain experience and licensing in required services
- 7 Provide notice for rodent inspection and abatement as specified and required by the Department of Health (Vector Control Branch)
- 8 Provide dust control & best management practices. Dust fence is required.
- 9 All utilities shall be properly disconnected and capped. Pull any electric meters and return to HELCO (if applicable)
- 10 Demolish, removal, pumping, disposal, and backfill & closure of Cesspool or Septic Tank/ waste lines as specified and required by the Department of Health
- 11 Provide adequate demolition equipment in inventory

- 12 Provide various miscellaneous equipment as necessary to clean, clear, and remove all debris from required work
- 13 Removal of tree only in the path of the Contractor that prohibits the completion of the contract shall be removed
- 14 Consolidate any large boulders & rocks into one designed area to the side (if applicable)
- 15 Demolish all concrete slabs surrounding and/or around structure (if applicable)
- 16 Demolish, removal and disposal of all material (organic/non-organic) associated with the structure demolition including any possible hazardous materials at an approved land fill
- 17 Provide PDF of all generated inspection reports (if applicable)
- 18 DHHL contractor not liable for any damages to existing utilities/improvements (if applicable)

5.2 LOCATION OF WORK

**TMK (3)2-1-021:072
LOT NO. 58-B-1
82 Andrews Avenue
HILO, HAWAII ISLAND
HAWAII**

**TMK (3)2-1-021:032
LOT NO. 62B
369 Desha Avenue
HILO, HAWAII ISLAND
HAWAII**

**TMK (3)2-1-021:010
LOT NO. 131-A-3
372 Desha Avenue
HILO, HAWAII ISLAND
HAWAII**

**TMK (3)2-1-022:097
LOT NO. 176D
162-A Kauhane Avenue
HILO, HAWAII ISLAND
HAWAII**

**TMK (3)2-1-023:009
LOT NO. 347
157 Krauss Avenue
HILO, HAWAII ISLAND
HAWAII**

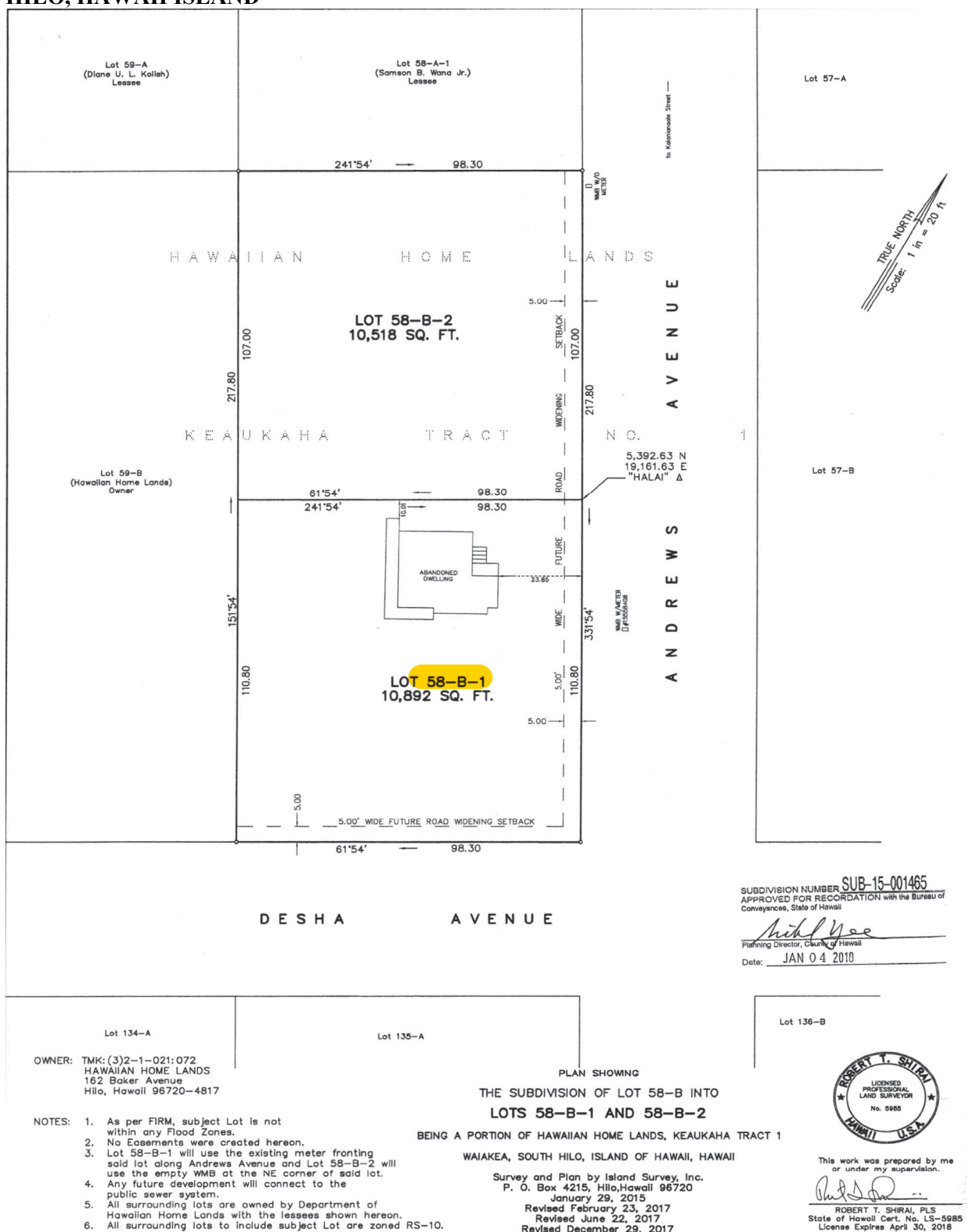
**TMK (3)2-1-023:113
LOT NO. 215-A
320 Todd Avenue**

**HILO, HAWAII ISLAND
HAWAII**

**TMK (3)2-1-025:192
LOT NO. 70B (Agricultural)
1420 Auwae Road
PANAWEA, HAWAII ISLAND
HAWAII**

END OF SECTION

HILO, HAWAII ISLAND





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HAZARDOUS MATERIALS SURVEY REPORT
82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072
Hilo, Hawaii

Survey Conducted On:
February 15, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
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HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 82 Andrews Avenue, Hilo, 96720 Lot No. 58-B-1, TMK (3) 2-1-021:072. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

There were no arsenic and asbestos containing materials found on the property.

Lead-containing paint (LCP) was found on the flooring on the first floor and on the exterior walls of the house. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Summary of Lead-Containing Paint 82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072

Lead-Containing Paint	Location	Condition	Estimated Quantity (Affected Area)
Gray paint on concrete floor (Photo 2)	Downstairs floor	Damaged	212.48 ft ²
White paint on concrete floor (Photo 3)	Downstairs floor	Damaged	148.15 ft ²
Green paint on concrete wall (Photo 4)	Outside the House	Damaged	5 ft ²

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 82 Andrews Avenue, Hilo, 96720 Lot No. 58-B-1, TMK (3) 2-1-021:072. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

5.0 Observations and Results

82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072 was a two-story house with part of the upper story on stilts (Photo no. 1). Although the exterior paint was sun bleached it did not show any signs of peeling and overall was in okay

condition. The top floor of the building was in okay condition; there were remnants of rodent activity, some of the floor tiles were cracked and some of the walls had holes in them. The downstairs floor was in very poor condition, most of the walls had holes in them, the ceiling was cracking and falling onto the floor, and the walls showed signs of water stains. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of twenty-seven (23) suspect ACM samples were collected from the kitchen, bedroom, hallway, downstairs area, and the exterior walls. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Kitchen

- White drywall and white joint compound
- White sink undercoating

Bedrooms

- White drywall and white joint compound

Interior Hallway

- Gray/tan tile with gray mortar

Downstairs interior area

- White drywall and white joint compound
- White drywall/paint and grey cementitious material
- White/green/red paint and gray cementitious material

Foundation exterior

- Green/red paint and gray cementitious material
- Brown caulking and light green paint on wood trim

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072
Collected on February 15, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2021-0262-A66	Upstairs Bathroom Ceiling	White Drywall	NAD	M	NF	No
		White joint compound/white texture paint	NAD	M	NF	No
2021-0262-A67	Upstairs Kitchen Ceiling	White Drywall	NAD	M	NF	No
		White joint compound/white texture paint	NAD	M	NF	No
2021-0262-A68	Upstairs Bedroom #2 Ceiling	White Drywall	NAD	M	NF	No
		White joint compound/white texture paint	NAD	M	NF	No
2021-0262-A69	Upstairs Hallway Floor	Gray mortar	NAD	M	NF	No
		Gray/tan tile	NAD	M	NF	No
2021-0262-A70	Upstairs Hallway Floor	Gray mortar	NAD	M	NF	No
		Gray/tan tile	NAD	M	NF	No
2021-0262-A71	Upstairs Hallway Floor	Gray mortar	NAD	M	NF	No
		Gray/tan tile	NAD	M	NF	No
2021-0262-A72	Upstairs Kitchen Sink Undercoating	Tan caulking	NAD	M	NF	No
2021-0262-A73	Upstairs Kitchen Sink Undercoating	Tan caulking	NAD	M	NF	No
2021-0262-A74	Upstairs Kitchen Sink Undercoating	Tan caulking	NAD	M	NF	No
2021-0262-A75	Downstairs Bedroom #3 East Wall	White Drywall	NAD	M	NF	No
		White joint compound/white texture paint	NAD	M	F	No
2021-0262-A76	Downstairs Bedroom #3 North Wall	White Drywall	NAD	M	F	No
		White joint compound/white texture paint	NAD	M	F	No
2021-0262-A77	Downstairs Bedroom #3 South Wall	White Drywall	NAD	M	F	No
		White joint compound/white texture paint	NAD	M	F	No
2021-0262-A78	Downstairs Open Space East Wall	White drywall/paint	NAD	M	F	No
2021-0262-A79	Downstairs Open Space Middle Wall	White drywall/paint	NAD	M	F	No
2021-0262-A80	Downstairs Open Space West Wall	White drywall/paint	NAD	M	F	No
2021-0262-A81	Downstairs East Floor	Gray cementitious material	NAD	M	F	No
		White/green/red/skim coat	NAD	M	F	No
2021-0262-A82	Downstairs South Floor	Gray cementitious material	NAD	M	F	No

		White/green/red/skim coat	NAD	M	F	No
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Table 1 (cont.)
Asbestos Sampling Results
82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072
Collected on February 15, 2022

2021-0262-A83	Downstairs South Floor	Gray cementitious material	NAD	M	F	No
		White/green/red/skim coat	NAD	M	F	No
2021-0262-A84	Exterior South Foundation	Gray cementitious material	NAD	M	NF	No
		Green/red pain skim coat	NAD	M	NF	No
2021-0262-A85	Exterior West Foundation	Gray cementitious material	NAD	M	NF	No
		Green/red pain skim coat	NAD	M	NF	No
2021-0262-A86	Exterior West Foundation	Gray cementitious material	NAD	M	NF	No
		Green/red pain skim coat	NAD	M	NF	No
2021-0262-A87	Exterior West Trim	Brown caulk/light green paint	NAD	M	NF	No
2021-0262-A88	Exterior West Trim	Brown caulk/light green paint	NAD	M	NF	No
2021-0262-A89	Exterior West Trim	Brown caulk/light green paint	NAD	M	NF	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of twelve (12) XRF readings and paint chip samples were collected from the outside walls, hallway, downstairs area, and interior staircase. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Outside wall

- Green paint on wood wall

Hallway

- Grey paint on wood doorframe
- Grey paint on wood window frame

Downstairs area

- White paint on drywall ceiling

- White paint on wood wall

Staircase

- Grey paint on wood stairs

Table 2 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.2 for the Laboratory Data and Chain-of-Custody Documentation.

Table 2
XRF and Paint Chip Sampling Results
82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072
Collected on February 15, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
25	Outside walls	Green	Wall	Wood	0	2022-0034-L25	< 39	No	No
26	Door & Window Frames	Grey	Doorframe	Wood	0	2022-0034-L26	< 39	No	No
27	White walls	White	Wall	Wood	0	2022-0034-L27	< 39	No	No
28	Paint on stairs	Gray	Floor	Wood	0	2022-0034-L28	< 39	No	No
29	Ceiling	White	Ceiling	Drywall	0	2022-0034-L29	< 39	No	No
30	Concrete paint on floor	Gray	Floor	Concrete	0	2022-0034-L30	80	Yes	No
31	Downstairs wall	White	Wall	Wood	0	2022-0034-L31	< 39	No	No
32	Downstairs floor	White	Floor	Concrete	0	2022-0034-L32	4,000	Yes	No
33	Downstairs ceiling and wall	White	Wall	Drywall	0	2022-0034-L33	< 39	No	No
34	Downstairs ceiling and wall	White	Wall	Wood	0	2022-0034-L34	< 40	No	No
35	Downstairs ceiling	White	Ceiling	-	0	2022-0034-L35	< 38	No	No
36	Outside Wall	Green	Wall	Concrete	0	2022-0034-L36	13,000	Yes	Yes
37	Outside Posts Holding Up the House/Porch	Green	Post	Metal	0	2022-0034-L37	< 39	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average. Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 $\mu\text{g}/\text{m}^3$).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

7.0 Limitations

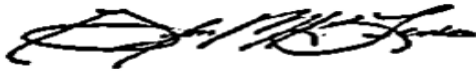
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



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Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
82 Andrews Avenue Lot No. 58-B-1, TMK (3) 2-1-021:072
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2: Downstairs

Lead-containing gray paint on concrete floor.

No asbestos was found.



Photo No. 3: Downstairs

Lead-containing white paint on concrete floor.

No asbestos was found.



Photo No. 4: Outside

Lead-containing green paint on concrete wall.

No asbestos was found.

Section 11.0
Homogeneous Area
and
Sample Location Plan



Site Location Map
MEC Project No.: 2022-0034

Drawing No: HZ-1

Page 1 of 9

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



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2022-0034-A72

Tan caulking

N

2022-0034-A73

Tan caulking

N

2022-0034-A74

Tan caulking

N

2022-0034-A66

White
Drywall

N

White joint
compound/
white
texture paint

N

2022-0034-A67

White
Drywall

N

White joint
compound/
white
texture paint

N

2022-0034-A68

White
Drywall

N

White joint
compound/
white
texture paint

N

Kitchen

Living Room

Bathroom

Bedroom #1

Bedroom #2

Legend:

Sample Number

Sample Material

Asbestos
Containing? Y/N

2022-0034-A69

Gray mortar

N

Gray/tan tile

N

2022-0034-A70,71

Gray mortar

N

Gray/tan tile

N

Sketch Not to Scale

Asbestos Sample Location Plan
Upstairs – samples A66-74
MEC Project No.: 2022-0034

Drawing No: HZ-2

Page 2 of 7

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



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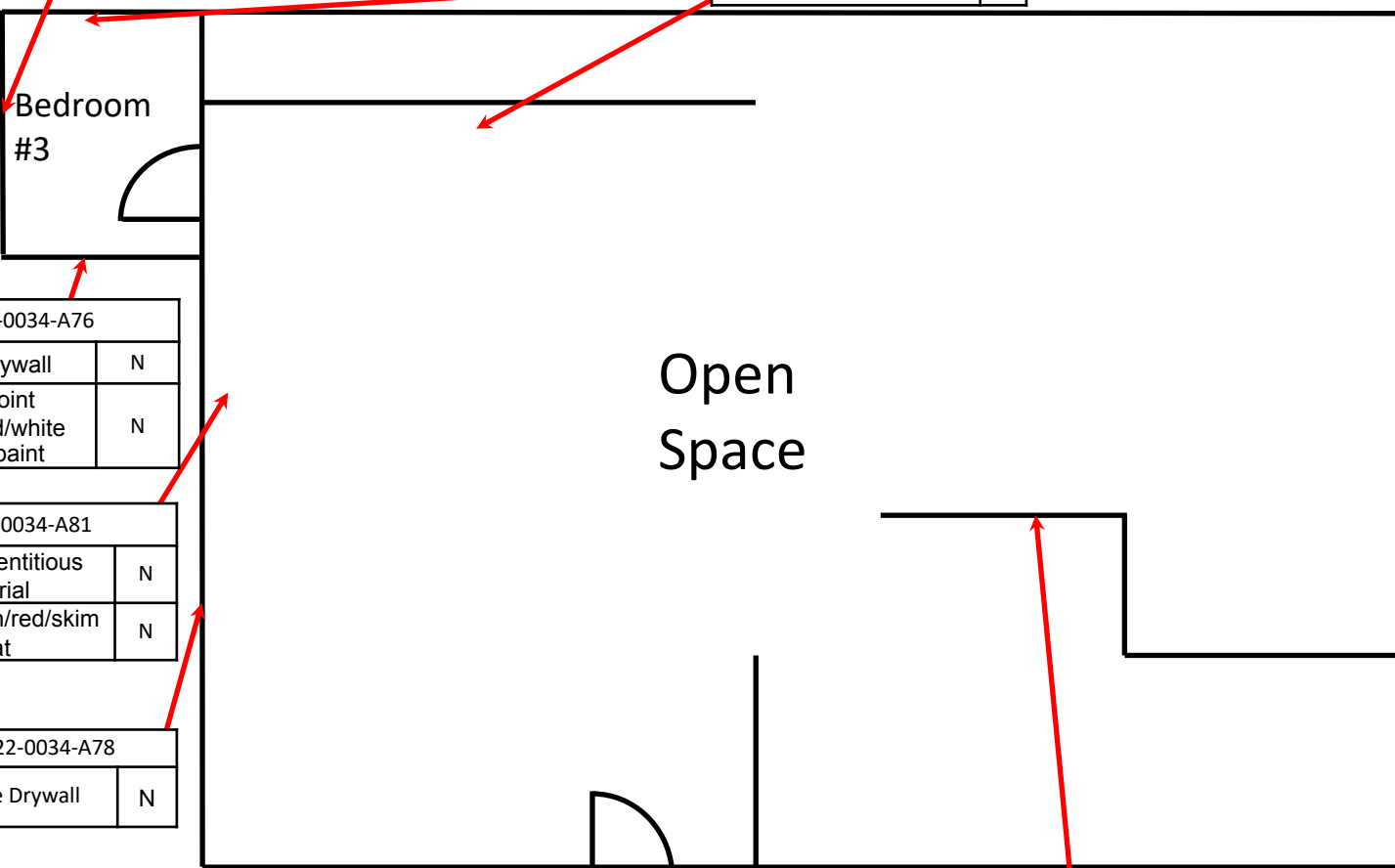


2022-0034-A75	
White Drywall	N
White joint compound/white texture paint	N

2022-0034-A77	
White Drywall	N
White joint compound/white texture paint	N

2022-0034-A82,83	
Gray cementitious material	N
White/green/red/skim coat	N

2022-0034-A80	
White Drywall	N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

2022-0034-A79	
White Drywall	N

Sketch Not to Scale

Asbestos Sample Location Plan
Downstairs – samples A75-83
MEC Project No.: 2022-0034

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072

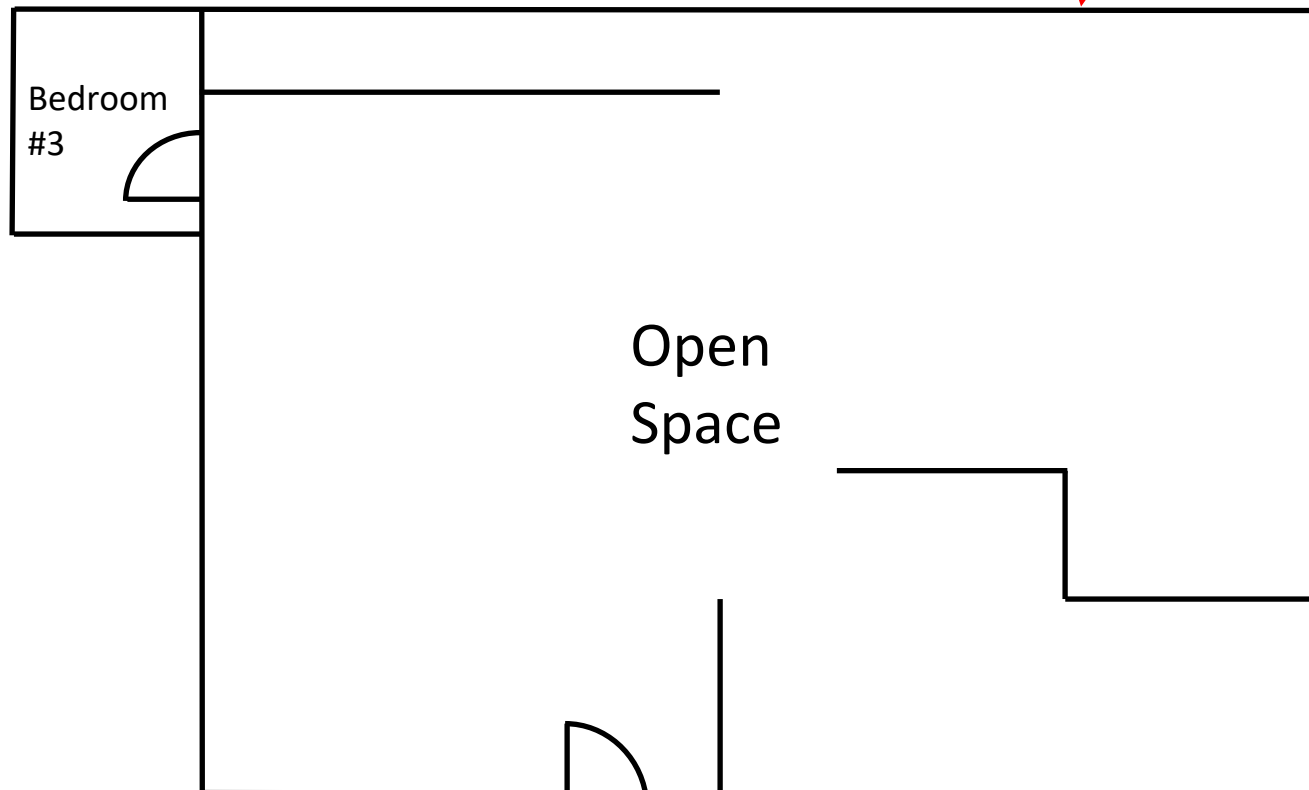


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2022-0034-A84	
Gray cementitious material	N
Green/red pain skim coat	N

2022-0034-A87,88,89	
Brown caulk/light green paint	N



2022-0034-A85,86	
Gray cementitious material	N
Green/red pain skim coat	N

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

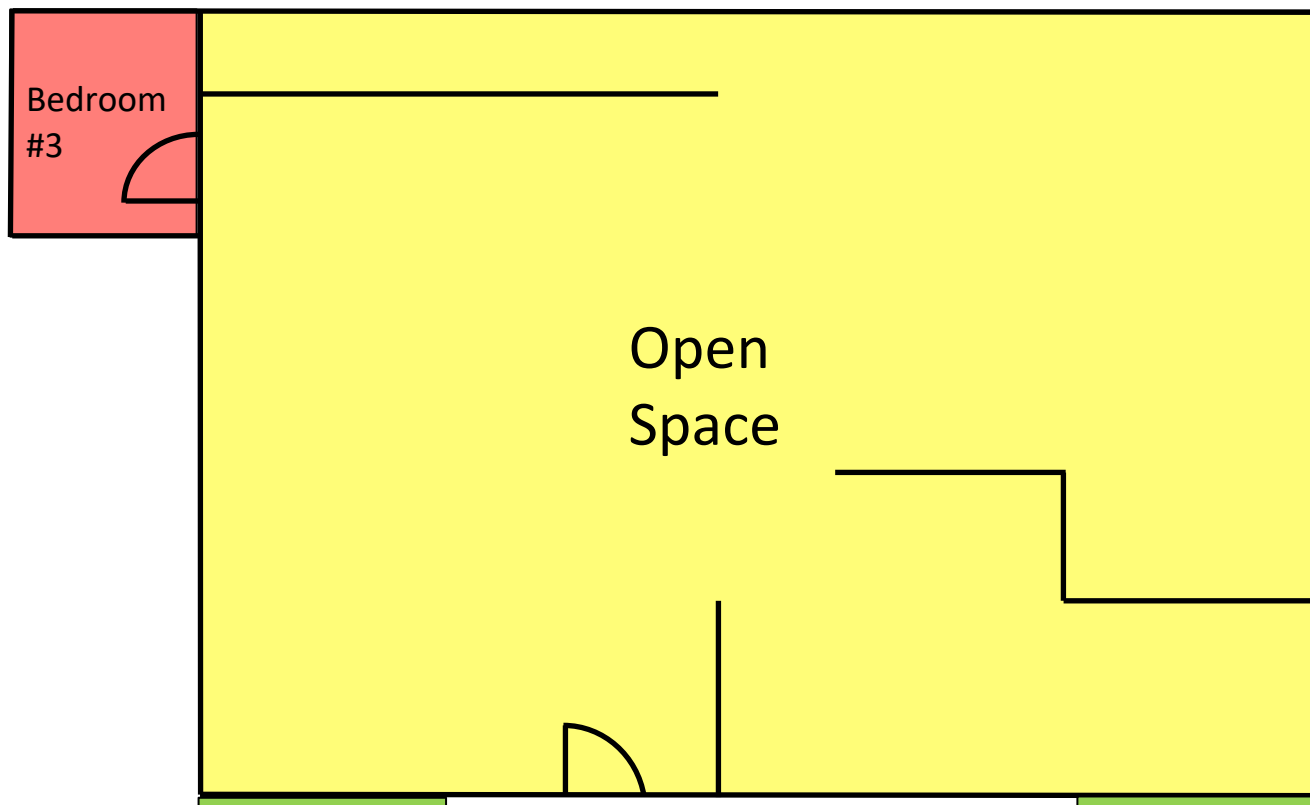
Sketch Not to Scale

Asbestos Sample Location Plan
Downstairs – samples A84-89
MEC Project No.: 2022-0034

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



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Legend:

- Lead-containing gray paint on concrete floor
- Lead-containing white paint on concrete floor
- Lead-containing green paint on concrete wall

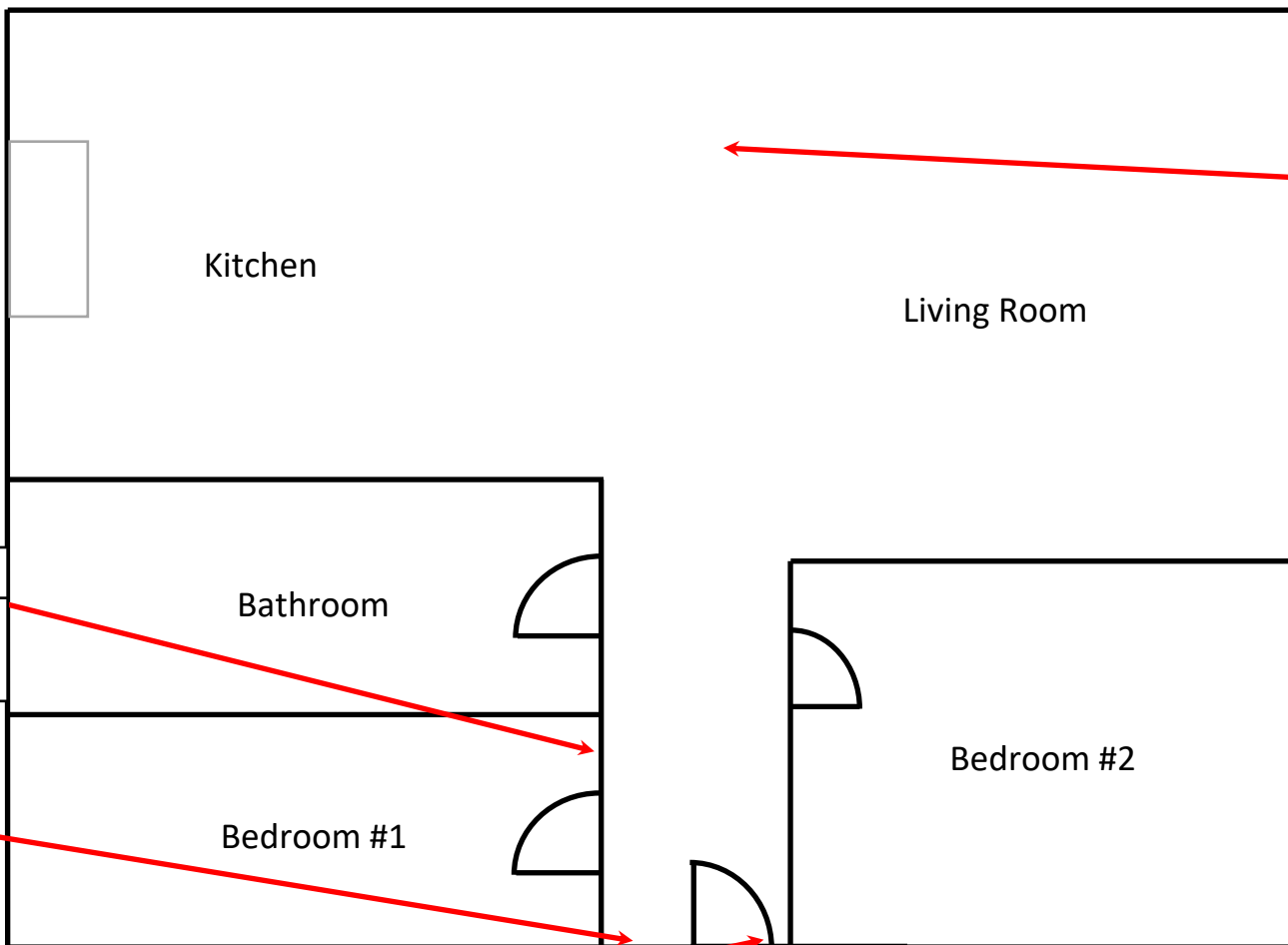
Sketch Not to Scale

Lead Homogeneous Area Plan
Downstairs
MEC Project No.: 2022-0034

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



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2022-0034-29L	
White Paint on Drywall Ceiling	N

2022-0034-27L	
White Paint on Wood Wall	N

2022-0034-L25	
Green paint on wood wall	N

Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

2022-0034-26L	
Gray Paint on Wood Door Frame	N

2022-0034-28L	
Gray paint on Stairs Wood Floor	N

*** - Lead-based**

Sketch Not to Scale

Lead Sample Location Plan
Upstairs – samples L25-29
MEC Project No.: 2022-0034

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



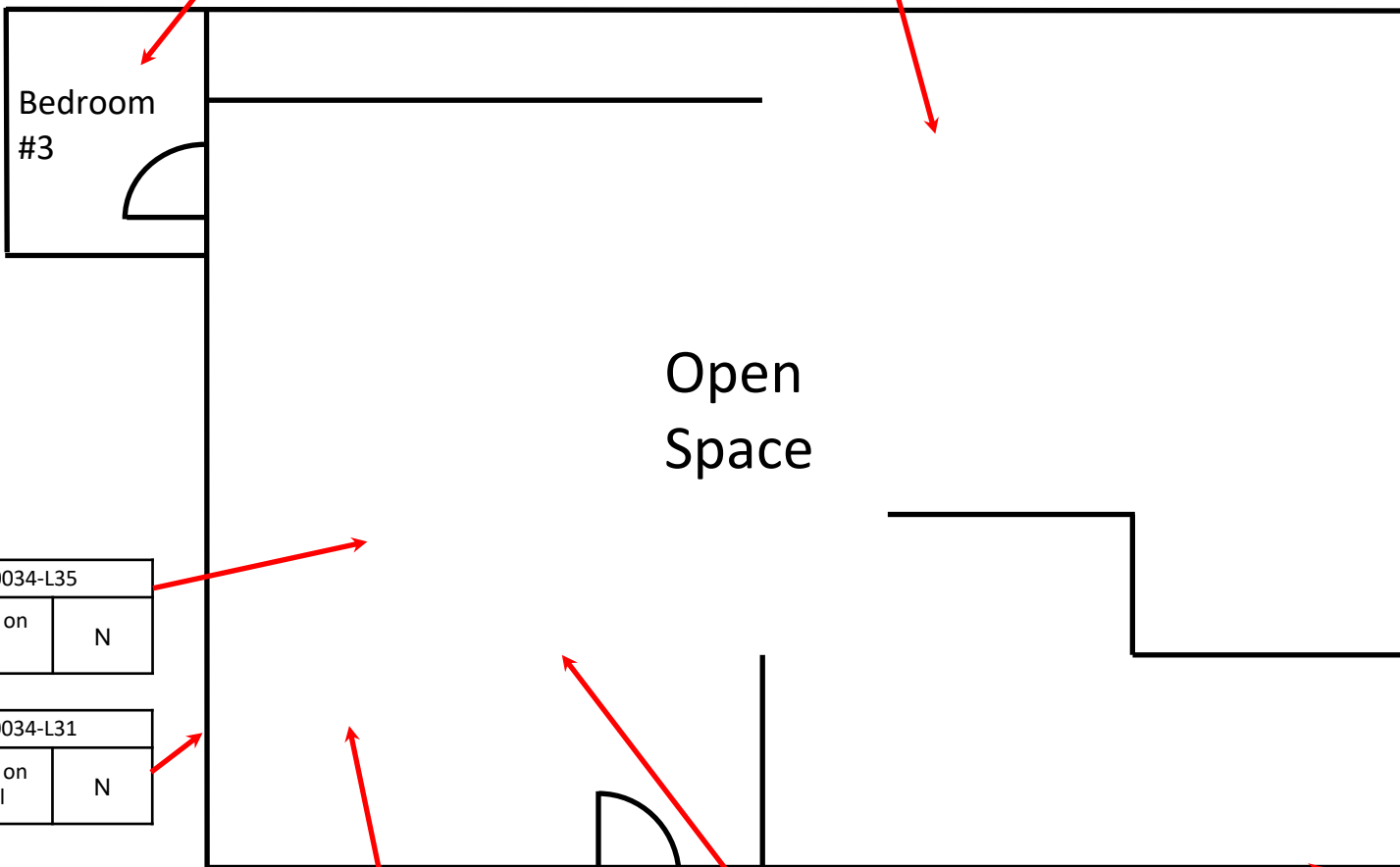
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2022-0034-L33	
White paint on drywall wall	N

2022-0034-L30	
Gray Paint on Concrete Floor	Y

2022-0034-L37	
Green paint on metal pole	N



2022-0034-L35	
White paint on ceiling	N

2022-0034-L31	
White paint on wood wall	N

Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

Note: Red, bold text indicates lead-containing

* - Lead-based

2022-0034-L32	
White paint on concrete floor	Y

2022-0034-L34	
White paint on wood wall	N

2022-0034-L36	
White paint on concrete	Y

Sketch Not to Scale

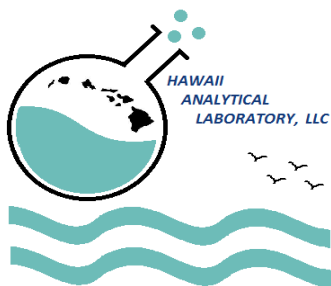
Lead Sample Location Plan
Downstairs – samples L30-37
MEC Project No.: 2022-0034

SITE LOCATION:
82 Andrews Avenue Lot No. 58-B-1,
TMK (3) 2-1-021:072



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Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
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Phone Number: (808)845-8822
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Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213518	2022-0034-A66 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/24/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213518	2022-0034-A66 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		None detected	Calcite + binder + paint	2/24/2022
<u>Layer</u>	<u>White joint compound / white texture paint</u>						
Comments							
202213519	2022-0034-A67 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/24/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213519	2022-0034-A67 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		None detected	Calcite + binder + paint	2/24/2022
<u>Layer</u>	<u>White joint compound / white texture paint</u>						
Comments							
202213520	2022-0034-A68 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/24/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							

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Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213520	2022-0034-A68 Drywall Ceiling Interior Kitchen & Bedrooms		NONE DETECTED		None detected	Calcite + binder + paint	2/24/2022
<u>Layer</u>	<u>White joint compound / white texture paint</u>						
Comments							
202213521	2022-0034-A69 Tile Interior Hallway		NONE DETECTED		None detected	Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray mortar</u>						
Comments							
202213521	2022-0034-A69 Tile Interior Hallway		NONE DETECTED		None detected	Ceramic	2/24/2022
<u>Layer</u>	<u>Gray/tan tile</u>						
Comments							
202213522	2022-0034-A70 Tile Interior Hallway		NONE DETECTED		None detected	Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray mortar</u>						
Comments							
202213522	2022-0034-A70 Tile Interior Hallway		NONE DETECTED		None detected	Ceramic	2/24/2022
<u>Layer</u>	<u>Gray/tan tile</u>						
Comments							
202213523	2022-0034-A71 Tile Interior Hallway		NONE DETECTED		None detected	Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray mortar</u>						
Comments							
202213523	2022-0034-A71 Tile Interior Hallway		NONE DETECTED		None detected	Ceramic	2/24/2022
<u>Layer</u>	<u>Gray/tan tile</u>						
Comments							
202213524	2022-0034-A72 Sink Undercoating Interior Kitchen		NONE DETECTED		Cellulose (undulose)	20 Binder + other	2/24/2022
<u>Layer</u>	<u>White sink undercoating</u>						
Comments							

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Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213525	2022-0034-A73 Sink Undercoating Interior Kitchen		NONE DETECTED		Cellulose (undulose)	20	Binder + other	2/24/2022
	<u>Layer</u> <u>White sink undercoating</u>							
	Comments							
202213526	2022-0034-A74 Sink Undercoating Interior Kitchen		NONE DETECTED		Cellulose (undulose)	20	Binder + other	2/24/2022
	<u>Layer</u> <u>White sink undercoating</u>							
	Comments							
202213527	2022-0034-A75 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213527	2022-0034-A75 Drywall Wall Interior Downstairs		NONE DETECTED		None detected		Calcite + binder + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / white texture paint</u>							
	Comments							
202213528	2022-0034-A76 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213528	2022-0034-A76 Drywall Wall Interior Downstairs		NONE DETECTED		None detected		Calcite + binder + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / white texture paint</u>							
	Comments							
202213529	2022-0034-A77 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213529	2022-0034-A77 Drywall Wall Interior Downstairs		NONE DETECTED		None detected		Calcite + binder + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / white texture paint</u>							
	Comments							

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Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213530	2022-0034-A78 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
<u>Layer</u>	<u>White drywall / paint</u>							
Comments								
202213531	2022-0034-A79 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
<u>Layer</u>	<u>White drywall / paint</u>							
Comments								
202213532	2022-0034-A80 Drywall Wall Interior Downstairs		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
<u>Layer</u>	<u>White drywall / paint</u>							
Comments								
202213533	2022-0034-A81 White Concrete Interior Downstairs		NONE DETECTED		None detected		Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray cementitious material</u>							
Comments								
202213533	2022-0034-A81 White Concrete Interior Downstairs		NONE DETECTED		None detected		Paint + other	2/24/2022
<u>Layer</u>	<u>White/green/red paint / skim coat</u>							
Comments								
202213534	2022-0034-A82 White Concrete Interior Downstairs		NONE DETECTED		None detected		Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray cementitious material</u>							
Comments								
202213534	2022-0034-A82 White Concrete Interior Downstairs		NONE DETECTED		None detected		Paint + other	2/24/2022
<u>Layer</u>	<u>White/green/red paint / skim coat</u>							
Comments								
202213535	2022-0034-A83 White Concrete Interior Downstairs		NONE DETECTED		None detected		Cementitious + other	2/24/2022
<u>Layer</u>	<u>Gray cementitious material</u>							
Comments								

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Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213535	2022-0034-A83 White Concrete Interior Downstairs		NONE DETECTED		None detected	Paint + other	2/24/2022
	<u>Layer</u> White/green/red paint / skim coat						
	Comments						
202213536	2022-0034-A84 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/24/2022
	<u>Layer</u> Gray cementitious material						
	Comments						
202213536	2022-0034-A84 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + other	2/24/2022
	<u>Layer</u> Green/red paint / skim coat						
	Comments						
202213537	2022-0034-A85 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/24/2022
	<u>Layer</u> Gray cementitious material						
	Comments						
202213537	2022-0034-A85 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + other	2/24/2022
	<u>Layer</u> Green/red paint / skim coat						
	Comments						
202213538	2022-0034-A86 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/24/2022
	<u>Layer</u> Gray cementitious material						
	Comments						
202213538	2022-0034-A86 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + other	2/24/2022
	<u>Layer</u> Green/red paint / skim coat						
	Comments						
202213539	2022-0034-A87 Caulking on Wood Trim Exterior		NONE DETECTED		None detected	Binder + paint + other	2/24/2022
	<u>Layer</u> Brown caulk / light green paint						
	Comments						

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Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201620
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213540	2022-0034-A88 Caulking on Wood Trim Exterior	NONE DETECTED			None detected	Binder + paint + other	2/24/2022
	<u>Layer</u> Brown caulk / light green paint						
	Comments						
202213541	2022-0034-A89 Caulking on Wood Trim Exterior	NONE DETECTED			None detected	Binder + paint + other	2/24/2022
	<u>Layer</u> Brown caulk / light green paint						
	Comments						

General Comments

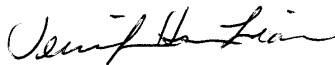
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
82 Andrews Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201620

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A66	Drywall ceiling interior kitchen & bedrooms	2/15/22	Bulk		PLM		202213518
2022-0034-A67	Drywall ceiling interior kitchen & bedrooms	2/15/22	Bulk		PLM		202213519
2022-0034-A68	Drywall ceiling interior kitchen & bedrooms	2/15/22	Bulk		PLM		202213520
2022-0034-A69	Tile interior hallway	2/15/22	Bulk		PLM		202213521
2022-0034-A70	Tile interior hallway	2/15/22	Bulk		PLM		202213522
2022-0034-A71	Tile interior hallway	2/15/22	Bulk		PLM		202213523
2022-0034-A72	Sink undercoating interior kitchen	2/15/22	Bulk		PLM		202213524
2022-0034-A73	Sink undercoating interior kitchen	2/15/22	Bulk		PLM		202213525
2022-0034-A74	Sink undercoating interior kitchen	2/15/22	Bulk		PLM		202213526
2022-0034-A75	Drywall wall interior downstairs	2/15/22	Bulk		PLM		202213527
2022-0034-A76	Drywall wall interior downstairs	2/15/22	Bulk		PLM		202213528
2022-0034-A77	Drywall wall interior downstairs	2/15/22	Bulk		PLM		202213529

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10:50am

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173

Page: 5 of 5



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Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
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Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
82 Andrews Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201620

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A78	Drywall Wall Interior Downstairs	2/15/22	Bulk		PLM		202213530
2022-0034-A79	Drywall Wall Interior Downstairs	2/15/22	Bulk		PLM		202213531
2022-0034-A80	Drywall Wall Interior Downstairs	2/15/22	Bulk		PLM		202213532
2022-0034-A81	White Concrete Interior Downstairs	2/15/22	Bulk		PLM		202213533
2022-0034-A82	White Concrete Interior Downstairs	2/15/22	Bulk		PLM		202213534
2022-0034-A83	White Concrete Interior Downstairs	2/15/22	Bulk		PLM		202213535
2022-0034-A84	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213536
2022-0034-A85	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213537
2022-0034-A86	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213538
2022-0034-A87	Caulking on Wood Trim Exterior	2/15/22	Bulk		PLM		202213539
2022-0034-A88	Caulking on Wood Trim Exterior	2/15/22	Bulk		PLM		202213540
2022-0034-A89	Caulking on Wood Trim Exterior	2/15/22	Bulk		PLM		202213541

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10.50am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

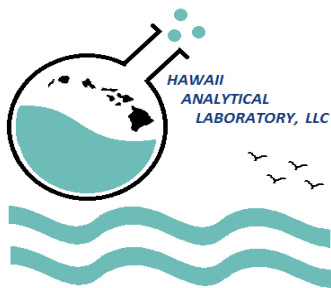
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☐ via FedEx

☐ via pick up

awb#: 173

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201622
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213575	2022-0034-L25 Outside Walls	< 39	mg/kg	2/24/2022
Comments				
202213576	2022-0034-L26 Door and Window Frames	< 39	mg/kg	2/24/2022
Comments				
202213577	2022-0034-L27 White Walls	< 39	mg/kg	2/24/2022
Comments				
202213578	2022-0034-L28 Paint on Stairs	< 39	mg/kg	2/24/2022
Comments				
202213579	2022-0034-L29 Ceiling	< 39	mg/kg	2/24/2022
Comments				
202213580	2022-0034-L30 Concrete Paint on Floor	80	mg/kg	2/24/2022
Comments				
202213581	2022-0034-L31 Downstairs Wall	< 39	mg/kg	2/24/2022
Comments				
202213582	2022-0034-L32 Downstairs Floor	4000	mg/kg	2/24/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201622
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213583	2022-0034-L33 Downstairs Ceiling and Walls	< 39	mg/kg	2/24/2022
Comments				
202213584	2022-0034-L34 Downstairs Ceiling and Walls	< 39	mg/kg	2/24/2022
Comments				
202213585	2022-0034-L35 Downstairs Ceiling	< 38	mg/kg	2/24/2022
Comments				
202213853	2022-0034-L36	13000	mg/kg	2/24/2022
Comments				
202213854	2022-0034-L37	< 39	mg/kg	2/24/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201622
Date Submitted: 2/20/2022
Your Project: 2022-0034, 82 Andrews Avenue, 2/15/22

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

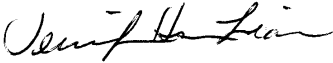
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
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Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
82 Andrews Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Leah Barkai PB-1269

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201622

* Added per client - AA 2/22/22

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L25	outside walls	2/15/22	Bulk		Lead		202213575
2022-0034-L26	door and window frames	2/15/22	Bulk		Lead		202213576
2022-0034-L27	white walls	2/15/22	Bulk		Lead		202213577
2022-0034-L28	paint on stairs	2/15/22	Bulk		Lead		202213578
2022-0034-L29	ceiling	2/15/22	Bulk		Lead		202213579
2022-0034-L30	concrete paint on floor	2/15/22	Bulk		Lead		202213580
2022-0034-L31	downstairs wall	2/15/22	Bulk		Lead		202213581
2022-0034-L32	Downstairs floor	2/15/22	Bulk		Lead		202213582
2022-0034-L33	Downstairs ceiling and walls	2/15/22	Bulk		Lead		202213583
2022-0034-L34	Downstairs ceiling and walls	2/15/22	Bulk		Lead		202213584
2022-0034-L35	downstairs ceiling	2/15/22	Bulk		Lead		202213585
		2/15/22	Bulk		Lead		

Relinquished By (Print and Sign)

Leah Barkai

Date/Time

2/15/22

Received By (Print and Sign)

Eva Skogsberg

Date/Time

2/20/22 11am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☒ via drop box

☐ via FedEx

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awb# 173

Page: 5 of 5

* 2022-0034-L36
2022-0034-L37

202213853 lead
202213854 lead.

TMK (3)2-1-021:032:0000
 LOT NO. 62B
 369 Desha Avenue
 HILO, HAWAII ISLAND



THIS WORK WAS PREPARED BY ME OR
 UNDER MY DIRECT SUPERVISION
 PAUL H. MURRAY, L.T.S.
 LICENSED PROFESSIONAL LAND SURVEYOR
 CERTIFICATE NUMBER LS-7588
 EXPIRATION DATE: APRIL 30, 2008

SUBDIVISION OF
 LOT 62-A, KUHIO SETTLEMENT LOTS, KEAUKAHA TRACT
 INTO LOT 62-B AND LOT 62-C
 WAIKAE, SOUTH HILO, ISLAND OF HAWAII, HAWAII
 SURVEY AND PLAN BY PAUL H. MURRAY & ASSOCIATES, LLC
 P.O. BOX 1189
 HILO, HAWAII

FEBRUARY 14, 2007
 TMK 2-1-021:032



NOTES:
 1) TO MY KNOWLEDGE THERE ARE NO WATER COURSES, AREAS SUBJECT TO INUNDATION OR STORM WATER OVERFLOW AFFECTING THIS PARCEL.
 2) THE SUBJECT PARCEL IS LOCATED IN ZONE "X" AS PER THE FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL NUMBER 159166-C, REVISED SEPTEMBER 16, 1998.
 3) AZIMUTH AND COORDINATES ARE REFERRED TO GOVERNMENT SURVEY TRIANGULATION STATION "HALA".

OWNER: DEPARTMENT OF HAWAIIAN HOME LANDS
 ATTENTION: JOHN HIROTA
 P.O. BOX 1879
 HONOLULU, HAWAII 96805
 APPLICANT: RACHELLE WHITNEY, LESSEE
 369 DESHA AVENUE
 HILO, HAWAII 96720

SCALE 1"=50'
 0 50 100





HAZARDOUS MATERIALS SURVEY REPORT
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032
Hilo, Hawai'i

Survey Conducted On:
February 17, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIKAMULO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 369 Desha Avenue, Hilo, HI 96720 Lot No. 62B, TMK (3) 2-1-021:032. The survey was conducted on February 17, 2022. Results can be found in Section 5.0.

Asbestos-containing materials (ACM) were found in all rooms containing white popcorn ceiling, in the kitchen containing black sink undercoating, and in all bedrooms containing tan vinyl floor tile with beige leveling material and black mastic. See Summary of Asbestos-containing materials table below for materials, locations, conditions, and estimated quantities and Section 6.1 Asbestos for recommendations.

Summary of Asbestos-Containing Materials 369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032

Asbestos-Containing Materials	Location	Condition	Estimated Quantity (Affected Area)
White popcorn ceiling (Photo 2)	All rooms but the bathrooms and carport	Poor	5,283 ft ²
Black sink undercoating (Photo 3)	Kitchen	Poor	9 ft ²
Tan vinyl floor tile with beige leveling material and black mastic (Photo 4)	Bedrooms #1, #2, #3, and #4	Poor	3,041 ft ²

Lead-containing paints (LCP) were found on the entry door. No lead-based paints (LBP) were found on the property. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Summary of Lead-Containing Paint 369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032

Lead-Containing Paint	Location	Condition	Estimated Quantity (Affected Area)
Tan paint on wood door (Photo 5)	Entry door	Good	21 ft ²

Arsenic containing materials were not found on the structure.

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 369 Desha Avenue, Hilo, HI 96720 Lot No. 62B, TMK (3) 2-1-021:032. The survey was conducted on February 17, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

4.3 Arsenic

Arsenic is commonly used in wood preservation. Common exposure pathways are through inhalation and dermal contact with wood treated with arsenic. During the sampling, the inspector wore a half-face, dual cartridge, air-purifying respirator with P-100 filters and disposable gloves. Each sample was placed into a labeled, re-sealable plastic container. Each sample was logged onto a field data sheet with a description of the sample. Each sample was analyzed using flame atomic absorption (EPA Method 7000Bm) to determine the amount of arsenic in each sample.

5.0 Observations and Results

369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032 was a single-story home that was in poor condition (Photo no. 1). The outside paint was faded and chipping. The ceiling and walls were severely damaged in addition to black mold. The floor tiles were damaged and loose in various areas. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of twenty-three (23) suspect ACM samples were collected from the car port, exterior foundation, interior, kitchen, bedrooms #1, #2, #3, and #4. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Car port:

- Tan paint on drywall ceiling with tan texture paint

Exterior:

- Gray concrete foundation

Interior:

- White drywall with white popcorn ceiling
- White drywall with yellow texture paint

Kitchen:

- Black sink undercoating
- Tan vinyl floor tile with gray mastic
- Brown cove base with brown mastic and white joint compound/paper

Bedroom #1, #2, #3, & #4

- Tan vinyl floor tile with beige leveling material and black mastic

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032
Collected on February 17, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A162	Carport Ceiling	Tan drywall	NAD	M	NF	No
		Tan texture paint	NAD	M	NF	No
2022-0034-A163	Carport Ceiling	Tan drywall	NAD	M	NF	No
		Tan texture paint	NAD	M	NF	No
2022-0034-A164	Carport Ceiling	Tan drywall	NAD	M	NF	No
		Tan texture paint	NAD	M	NF	No
2022-0034-A165	Exterior Concrete Foundation	Gray concrete	NAD	M	F	No
2022-0034-A166	Exterior Concrete Foundation	Gray concrete	NAD	M	F	No
2022-0034-A167	Exterior Concrete Foundation	Gray concrete	NAD	M	F	No
2022-0034-A168	Bedroom #3 Ceiling	White drywall	NAD	M	NF	No
		White popcorn ceiling	10% Chrysotile	S	F	Yes
2022-0034-A169	Living Room Ceiling	White drywall	NAD	M	NF	No
		White popcorn ceiling	10% Chrysotile	S	F	Yes
2022-0034-A170	Bedroom #1 Ceiling	White drywall	NAD	M	NF	No
		White popcorn ceiling	10% Chrysotile	S	F	Yes
2022-0034-A171	Sink Undercoating in Kitchen	Black sink undercoating	2% Chrysotile	TSI	NF	Yes
2022-0034-A172	Sink Undercoating in Kitchen	Black sink undercoating	2% Chrysotile	TSI	NF	Yes
2022-0034-A173	Sink Undercoating in Kitchen	Black sink undercoating	2% Chrysotile	TSI	NF	Yes
2022-0034-A174	Kitchen Floor	Grayish mastic (limited)	NAD	M	NF	No
		Tan vinyl floor tile	NAD	M	NF	No
2022-0034-A175	Kitchen Floor	Grayish mastic (limited)	NAD	M	NF	No
		Tan vinyl floor tile	NAD	M	NF	No
2022-0034-A176	Kitchen Floor	Grayish mastic (limited)	NAD	M	NF	No
		Tan vinyl floor tile	NAD	M	NF	No
2022-0034-A177	Bedroom #2 Floor	Beige leveling material (limited)	2% Chrysotile	M	NF	Yes
		Black Mastic	8% Chrysotile	M	NF	Yes
		Tan vinyl floor tile	< 1% Chrysotile	M	NF	Yes

¹ NAD = No asbestos detected

² Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (continued)
Asbestos Sampling Results
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032
Collected on February 17, 2022

2022-0034-A178	Bedroom #2 Floor	Beige leveling material (limited)	2% Chrysotile	M	NF	Yes
		Black Mastic	8% Chrysotile	M	NF	Yes
		Tan vinyl floor tile	2% Chrysotile	M	NF	Yes
2022-0034-A179	Bedroom #1 Floor	Beige leveling material (limited)	< 1% Chrysotile	M	NF	Yes
		Black Mastic	8% Chrysotile	M	NF	Yes
		Tan vinyl floor tile	2% Chrysotile	M	NF	Yes
2022-0034-A180	Kitchen Floor	Brown cove base	NAD	M	NF	No
		Brown mastic	NAD	M	NF	No
2022-0034-A181	Kitchen Floor	Brown cove base	NAD	M	NF	No
		Brown mastic	NAD	M	NF	No
2022-0034-A182	Kitchen Floor	Brown cove base	NAD	M	NF	No
		Brown mastic	NAD	M	NF	No
2022-0034-A183	Bedroom #4 Wall	Yellowish texture paint	NAD	M	NF	No
		White drywall	NAD	M	NF	No
2022-0034-A184	Bedroom #2 Wall	Yellowish texture paint	NAD	M	NF	No
		White drywall	NAD	M	NF	No
2022-0034-A185	Bedroom #1 Wall	Yellowish texture paint	NAD	M	NF	No
		White drywall	NAD	M	NF	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of eight (8) XRF readings and paint chip samples were collected from the carport, exterior, interior, bedroom #3, and bathroom. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Carport

- Tan paint on drywall ceiling
- Brown paint on compressed board walls
- Brown paint on frame for carport storage

Exterior

- Tan paint on drywall walls
- Brown paint on wood door frame
- White paint on textured ceiling tile

Interior

- Tan paint on wood entry door
- White paint on drywall walls
- White paint on wood door frame
- White paint on wood window frame

Bedroom #3

- Light blue paint on drywall wall

Bathroom:

- Light blue paint on ceiling

Table 2
XRF and Paint Chip Sampling Results
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032
Collected on February 17, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
64	Carport ceiling	Tan	Ceiling	Drywall	0.00	2022-0034-L64	< 40	No	No
65	Carport storage	Brown	Wall	Compressed board	0.00	2022-0034-L65	< 40	No	No
66	Exterior walls	Tan	Wall	Drywall	0.00	2022-0034-L66	< 40	No	No
67	Entry door frame and carport storage	Brown	Door Frame	Wood	0.00	2022-0034-L67	< 40	No	No
68	Entry door	Tan	Door	Wood	0.00	2022-0034-L68	130	Yes	No
69	Inside walls	White	Wall	Drywall	0.00	2022-0034-L69	< 40	No	No
70	Inside door frame and window frame	White	Door & window frame	Wood	0.00	2022-0034-L70	< 40	No	No
71	Bedroom 3 and bathroom walls	Light blue	Wall & ceiling	Drywall	0.00	2022-0034-L71	< 40	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

5.3 Arsenic

A total of one (1) fiber board sample was collected from the carport wall. The sample was recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for total arsenic analysis.

Building material suspected of containing arsenic and sampled included:

Carport wall

- Brown paint on fiber board

Table 3 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.3 for the Laboratory Data and Chain-of-Custody Documentation.

Table 3
Arsenic-Containing Building Material
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032
Collected on February 17, 2022

Sample Number	Material	Location	Results ¹	Detected? ²
2022-0034-L65	Brown painted fiber board	Carport storage wall	< 39	No

¹ units of mg/kg

² using EPA method 3051m/7000bm

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average. Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 µg/m³).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

6.3 Arsenic

When arsenic containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, State of Hawaii Department of Health, and HIOSH State of Hawaii Department of Labor, Division of Occupational Safety and Health regulations is required.

7.0 Limitations

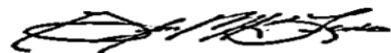
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-021:032



Photo No. 1:
Front view of the Home



Photo No. 2: Living Room

Asbestos-containing white popcorn ceiling.

White drywall did not contain asbestos.

Tan paint on drywall wall did not contain lead.



Photo No. 3: Kitchen

Asbestos-containing black sink undercoating.



Photo No. 4: Bedroom #2

Cove base under the tiles was not asbestos-containing.

Asbestos-containing 9"x 9" tan with beige streak vinyl floor tiles with black mastic underneath.



Photo No. 5: Entry of House

Lead-containing tan paint on wood door.

Brown paint on wood door frame did not contain lead.

Section 11.0
Homogeneous Area
and
Sample Location Plan



Site Location Map
MEC Project No.: 2022-0034

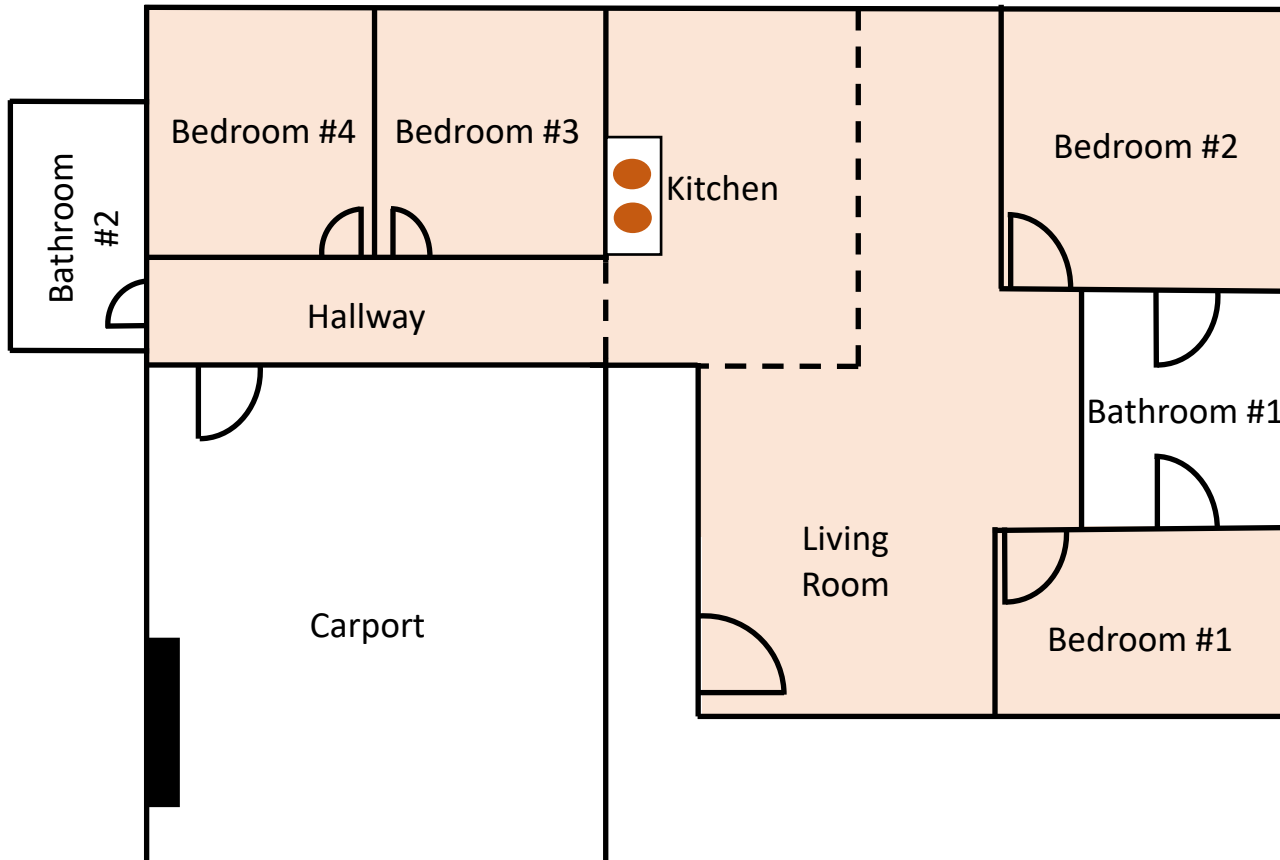
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Page 1 of 8



SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3) 2-1-
021:032



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Legend:

-  Asbestos-containing white popcorn ceiling
-  Asbestos-containing black sink undercoating

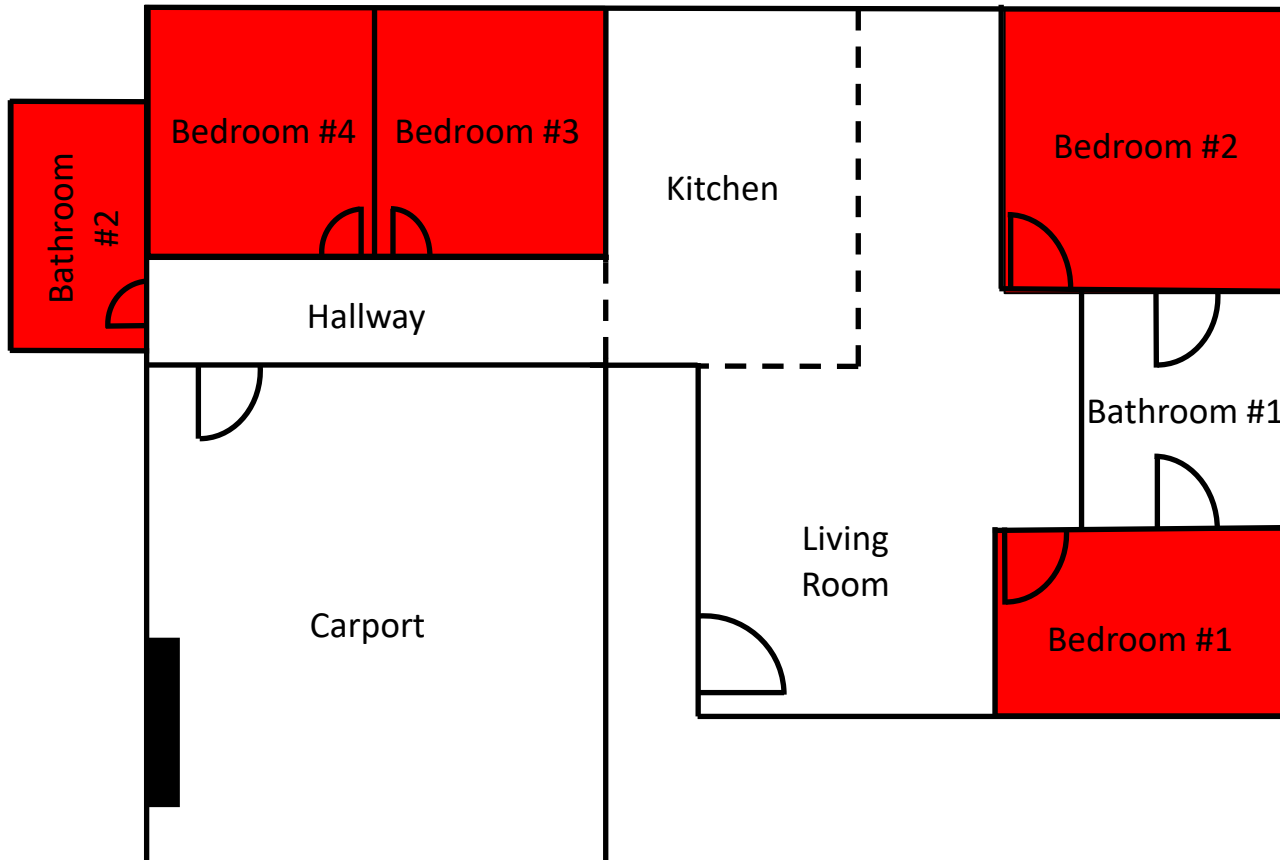
Sketch Not to Scale

Asbestos Homogeneous Area Plan
MEC Project No.: 2022-0034


SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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Legend:

 Asbestos-containing 9"x 9" tan with beige streak vinyl floor tiles with black mastic underneath

Sketch Not to Scale

Asbestos Homogeneous Area Plan
MEC Project No.: 2022-0034

SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032

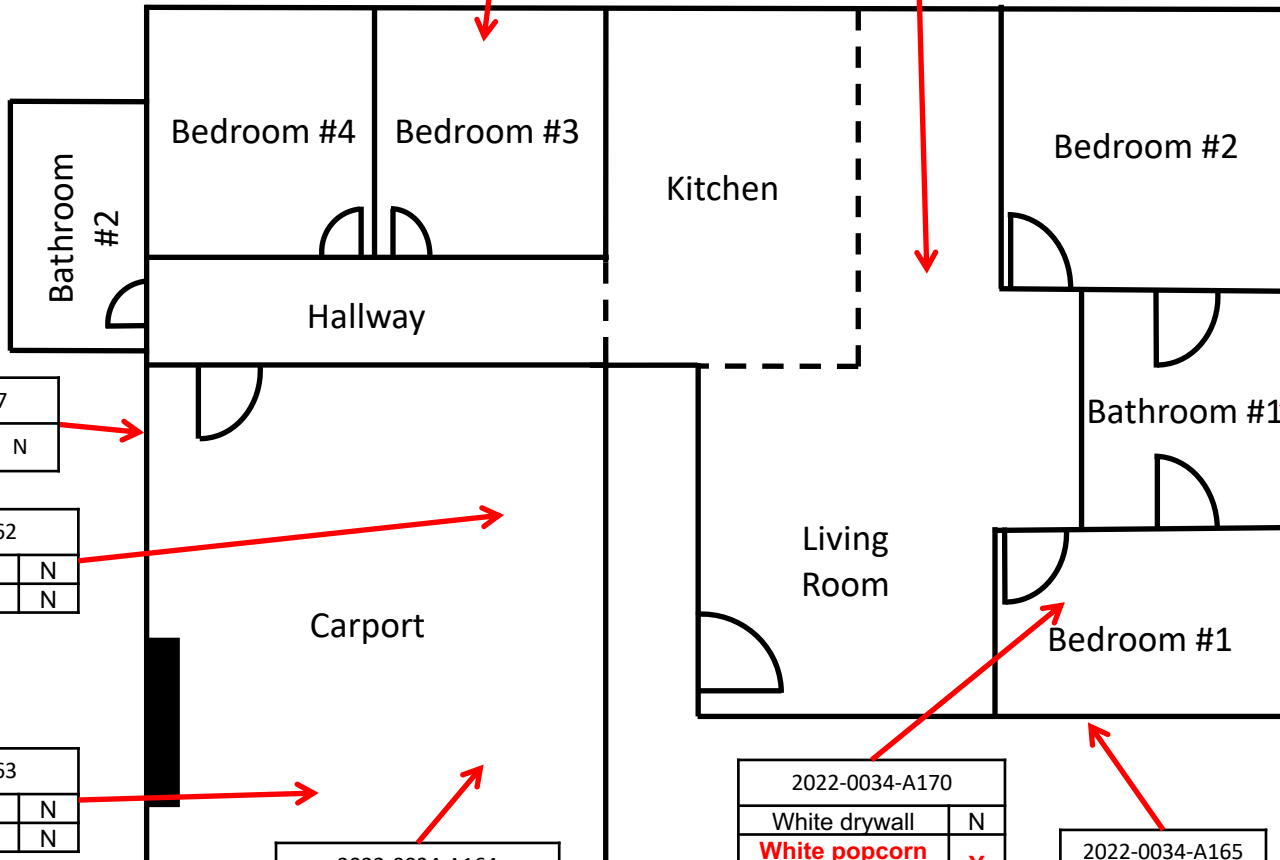


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2022-0034-A168	
White drywall	N
White popcorn ceiling	Y

2022-0034-A169	
White drywall	N
White popcorn ceiling	Y



2022-0034-A167	
Gray concrete	N

2022-0034-A166	
Gray concrete	N

2022-0034-A162	
Tan drywall	N
Tan texture paint	N

2022-0034-A163	
Tan drywall	N
Tan texture paint	N

2022-0034-A170	
White drywall	N
White popcorn ceiling	Y

2022-0034-A165	
Gray concrete	N

2022-0034-A164	
Tan drywall	N
Tan texture paint	N

Legend:	
Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

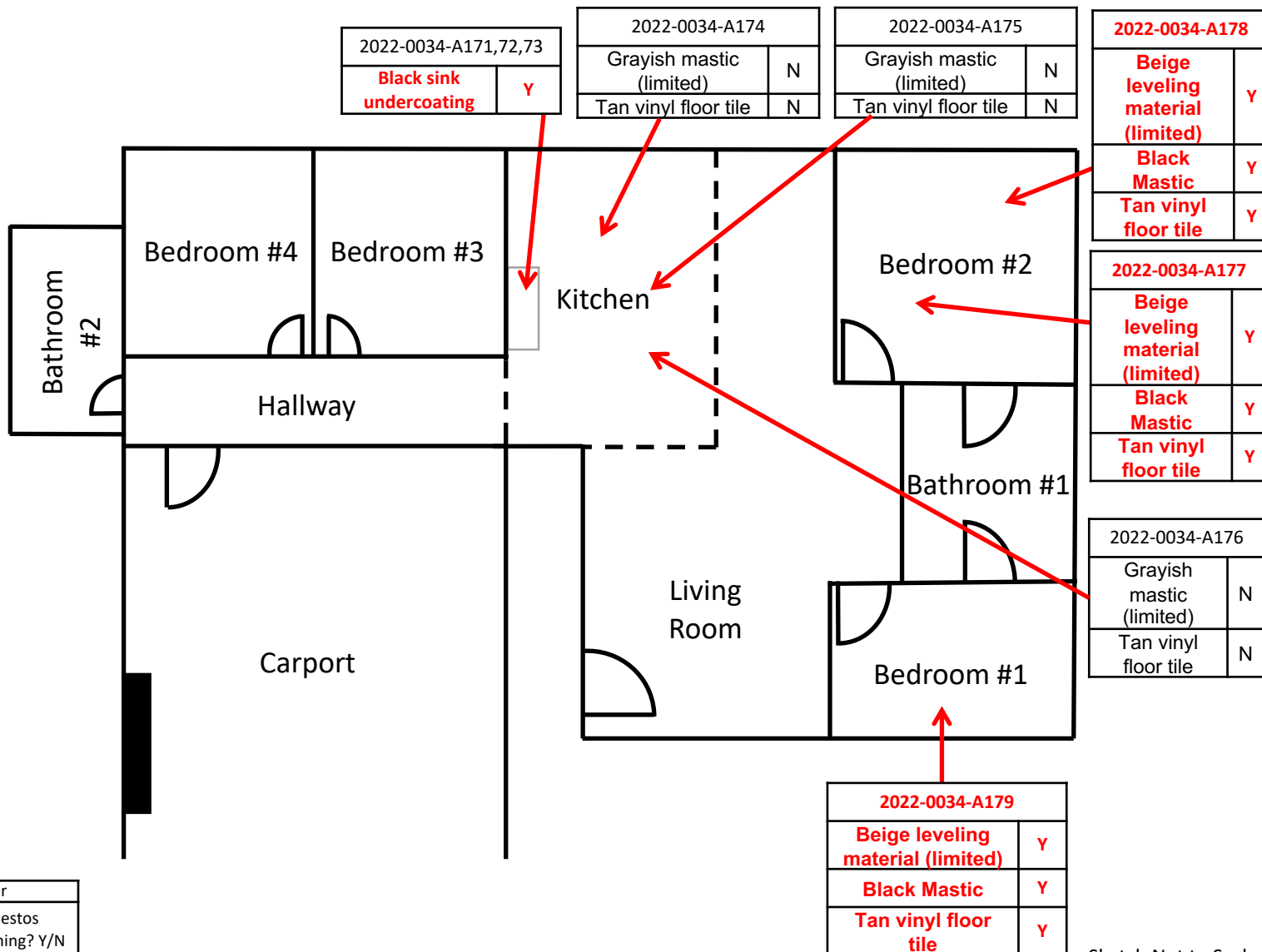
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Asbestos Sample Location Plan
Samples A162-170
MEC Project No.: 2022-0034

SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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Sketch Not to Scale

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

Asbestos Sample Location Plan
Samples A171-179
MEC Project No.: 2022-0034

Drawing No: HZ-5

Page 5 of 8

SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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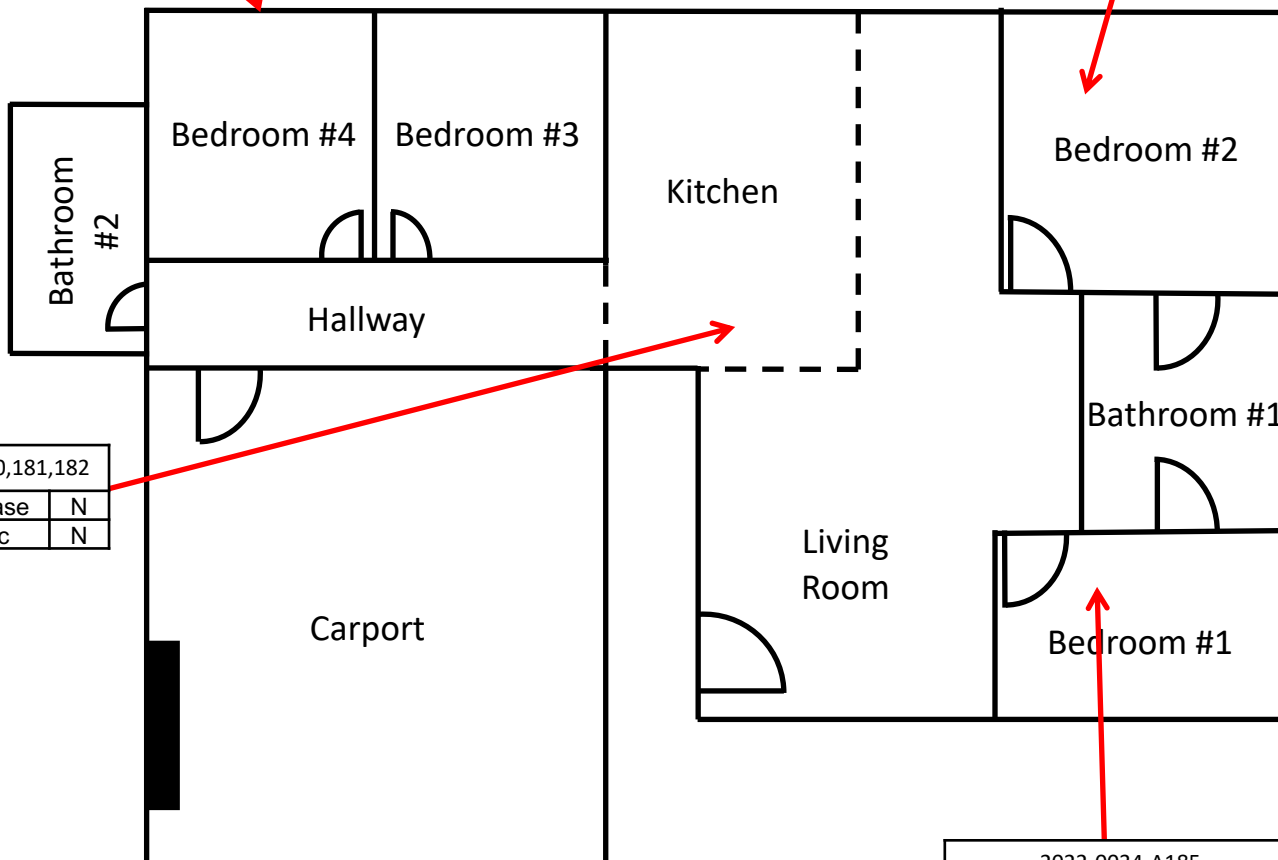


2022-0034-A183	
Yellowish texture paint	N
White drywall	N

2022-0034-A184	
Yellowish texture paint	N
White drywall	N

2022-0034-A180,181,182	
Brown cove base	N
Brown mastic	N

2022-0034-A185	
Yellowish texture paint	N
White drywall	N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Sketch Not to Scale

Asbestos Sample Location Plan

Samples A180-185

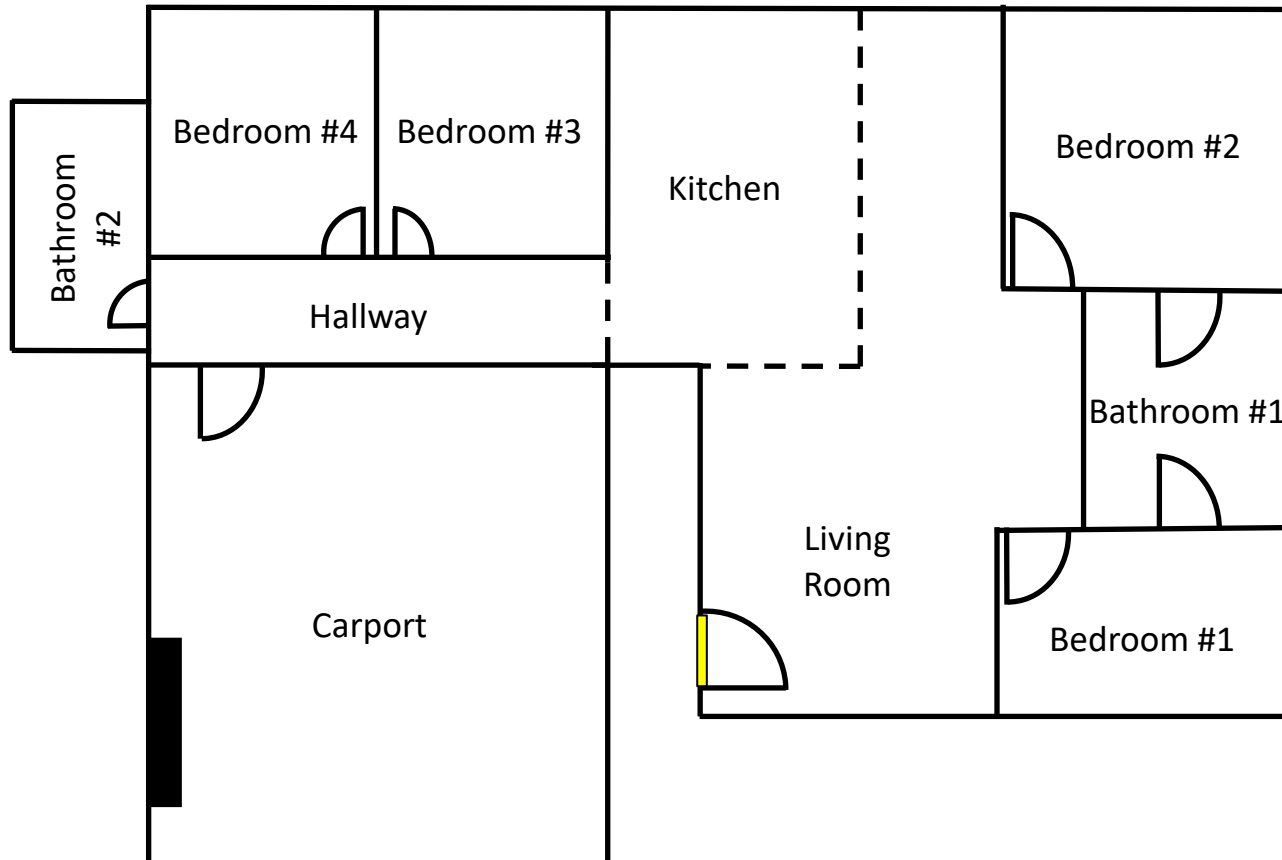
MEC Project No.: 2022-0034

SITE LOCATION:


369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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Legend:

 Lead-containing tan paint on wood door

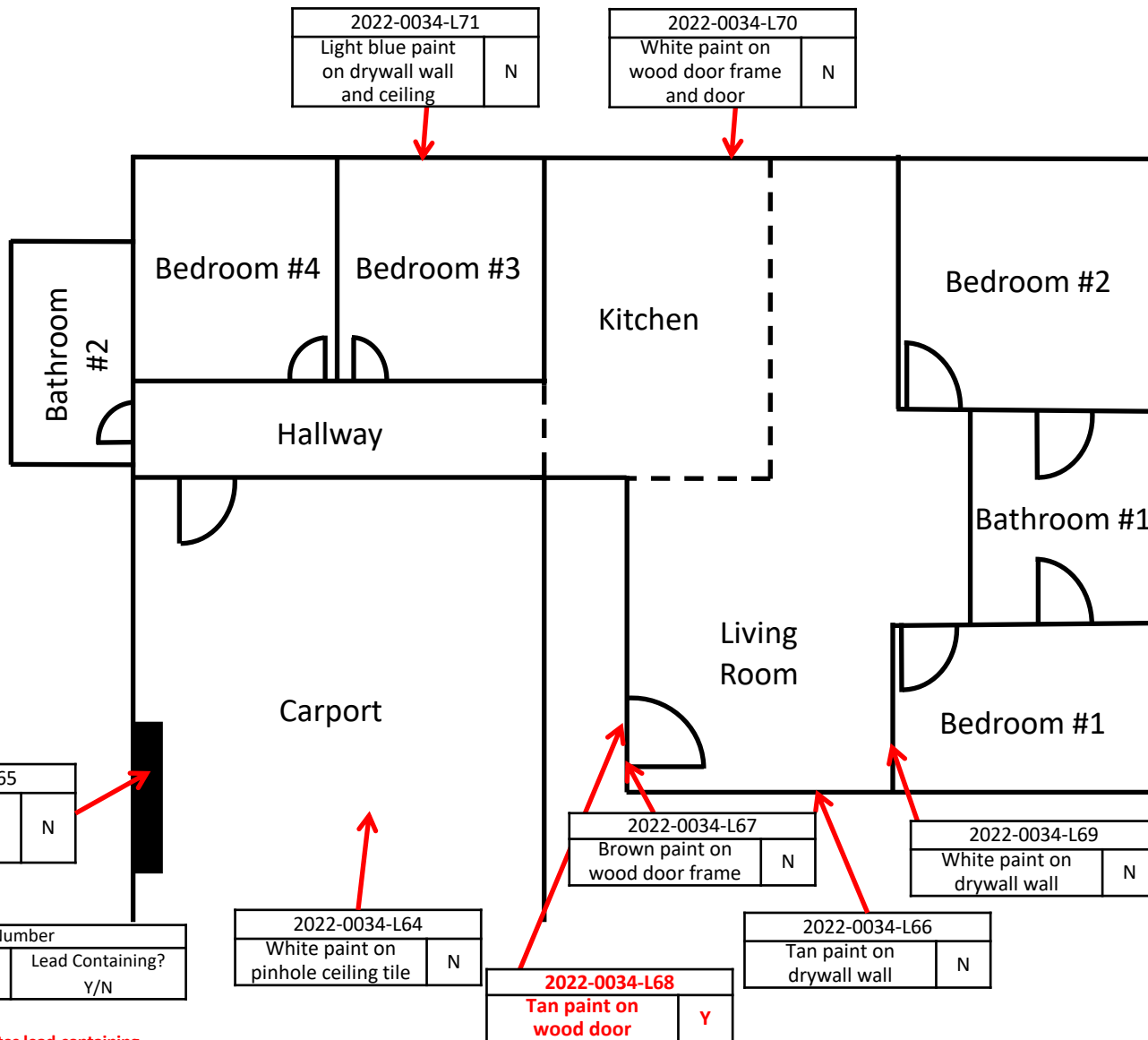
Sketch Not to Scale

Lead Homogeneous Area Plan
MEC Project No.: 2022-0034

SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

* - Lead-based

Note: Red, bold text indicates lead-containing

Sketch Not to Scale

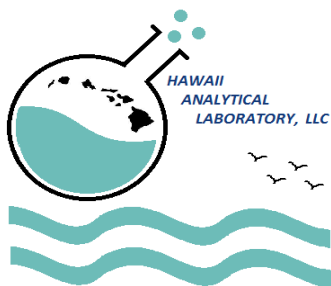
Lead Sample Location Plan
Samples L64-71
MEC Project No.: 2022-0034

SITE LOCATION:
369 Desha Avenue Lot No. 62B, TMK (3)
2-1-021:032



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Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
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401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201618
Date Submitted: 2/20/2022
Your Project: 2022-0034, 369 Desha Ave, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213470	2022-0034-A162 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>Tan drywall</u>						
Comments							
202213470	2022-0034-A162 Drywall Ceiling Exterior Car Port		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
<u>Layer</u>	<u>Tan texture paint</u>						
Comments							
202213471	2022-0034-A163 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>Tan drywall</u>						
Comments							
202213471	2022-0034-A163 Drywall Ceiling Exterior Car Port		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
<u>Layer</u>	<u>Tan texture paint</u>						
Comments							
202213472	2022-0034-A164 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>Tan drywall</u>						
Comments							

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201618
Date Submitted: 2/20/2022
Your Project: 2022-0034, 369 Desha Ave, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213472	2022-0034-A164 Drywall Ceiling Exterior Car Port		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
	<u>Layer</u> <u>Tan texture paint</u>						
	Comments						
202213473	2022-0034-A165 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/25/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213474	2022-0034-A166 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/25/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213475	2022-0034-A167 Concrete Foundation Exterior		NONE DETECTED		None detected	Cementitious + other	2/25/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213476	2022-0034-A168 Popcorn Ceiling Interior - All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213476	2022-0034-A168 Popcorn Ceiling Interior - All Rooms	Yes	Chrysotile	10	None detected	Calcite + binder + foam + other	2/25/2022
	<u>Layer</u> <u>White popcorn ceiling</u>						
	Comments						
202213477	2022-0034-A169 Popcorn Ceiling Interior - All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213477	2022-0034-A169 Popcorn Ceiling Interior - All Rooms	Yes	Chrysotile	10	None detected	Calcite + binder + foam + other	2/25/2022
	<u>Layer</u> <u>White popcorn ceiling</u>						
	Comments						

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201618
Date Submitted: 2/20/2022
Your Project: 2022-0034, 369 Desha Ave, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213478	2022-0034-A170 Popcorn Ceiling Interior - All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213478	2022-0034-A170 Popcorn Ceiling Interior - All Rooms	Yes	Chrysotile	10	None detected	Calcite + binder + foam + other	2/25/2022
<u>Layer</u>	<u>White popcorn ceiling</u>						
Comments							
202213479	2022-0034-A171 Sink Undercoating Interior Kitchen	Yes	Chrysotile	2	None detected	Tar + other	2/25/2022
<u>Layer</u>	<u>Black sink undercoating</u>						
Comments							
202213480	2022-0034-A172 Sink Undercoating Interior Kitchen	Yes	Chrysotile	2	None detected	Tar + other	2/25/2022
<u>Layer</u>	<u>Black sink undercoating</u>						
Comments							
202213481	2022-0034-A173 Sink Undercoating Interior Kitchen	Yes	Chrysotile	3	None detected	Tar + other	2/25/2022
<u>Layer</u>	<u>Black sink undercoating</u>						
Comments							

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201618
Date Submitted: 2/20/2022
Your Project: 2022-0034, 369 Desha Ave, 2/17/22

General Comments

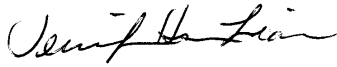
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Jennifer Hsu Liao
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
369 Desha Ave

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201618

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A162	Drywall ceiling Exterior Car Port	2/17/22	Bulk		PLM		202213470
2022-0034-A163	Drywall ceiling Exterior Car Port	2/17/22	Bulk		PLM		202213471
2022-0034-A164	Drywall ceiling Exterior Car Port	2/17/22	Bulk		PLM		202213472
2022-0034-A165	Concrete foundation exterior	2/17/22	Bulk		PLM		202213473
2022-0034-A166	Concrete foundation exterior	2/17/22	Bulk		PLM		202213474
2022-0034-A167	Concrete foundation exterior	2/17/22	Bulk		PLM		202213475
2022-0034-A168	Popcorn Ceiling interior- all rooms	2/17/22	Bulk		PLM		202213476
2022-0034-A169	Popcorn Ceiling interior- all rooms	2/17/22	Bulk		PLM		202213477
2022-0034-A170	Popcorn Ceiling interior- all rooms	2/17/22	Bulk		PLM		202213478
2022-0034-A171	Sink undercoating interior kitchen	2/17/22	Bulk		PLM		202213479
2022-0034-A172	Sink undercoating interior kitchen	2/17/22	Bulk		PLM		202213480
2022-0034-A173	Sink undercoating interior kitchen	2/17/22	Bulk		PLM		202213481
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai		2/16/22		Eva Skogsberg		2/20/22 10:35am	

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is "soil", please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

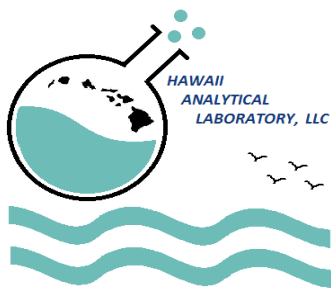
☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173.....



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201901
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213482	2022-0034-A174 Tile Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> Grayish mastic (limited)						
	Comments						
202213482	2022-0034-A174 Tile Interior Kitchen		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> Tan vinyl floor tile						
	Comments						
202213483	2022-0034-A175 Tile Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> Grayish mastic (limited)						
	Comments						
202213483	2022-0034-A175 Tile Interior Kitchen		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> Tan vinyl floor tile						
	Comments						
202213484	2022-0034-A176 Tile Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> Grayish mastic (limited)						
	Comments						
202213484	2022-0034-A176 Tile Interior Kitchen		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> Tan vinyl floor tile						
	Comments						

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201901
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213485	2022-0034-A177 Tile Interior Bedroom 1,2 <u>Layer</u> Beige leveling material (limited) Comments	Yes	Chrysotile	2	None detected	Calcite + binder	2/25/2022
202213485	2022-0034-A177 Tile Interior Bedroom 1,2 <u>Layer</u> Black mastic Comments	Yes	Chrysotile	8	None detected	Tar + other	2/25/2022
202213485	2022-0034-A177 Tile Interior Bedroom 1,2 <u>Layer</u> Tan vinyl floor tile Comments	Yes	Chrysotile	< 1	None detected	Vinyl	2/25/2022
202213486	2022-0034-A178 Tile Interior Bedroom 1,3 <u>Layer</u> Beige leveling material (limited) Comments	Yes	Chrysotile	2	None detected	Calcite + binder	2/25/2022
202213486	2022-0034-A178 Tile Interior Bedroom 1,3 <u>Layer</u> Black mastic Comments	Yes	Chrysotile	8	None detected	Tar + other	2/25/2022
202213486	2022-0034-A178 Tile Interior Bedroom 1,3 <u>Layer</u> Tan vinyl floor tile Comments	Yes	Chrysotile	2	None detected	Vinyl	2/25/2022
202213487	2022-0034-A179 Tile Interior Bedroom 1,4 <u>Layer</u> Beige leveling material (limited) Comments	Yes	Chrysotile	< 1	None detected	Calcite + binder	2/25/2022
202213487	2022-0034-A179 Tile Interior Bedroom 1,4 <u>Layer</u> Black mastic Comments	Yes	Chrysotile	8	None detected	Tar + other	2/25/2022
202213487	2022-0034-A179 Tile Interior Bedroom 1,4 <u>Layer</u> Tan vinyl floor tile Comments	Yes	Chrysotile	2	None detected	Vinyl	2/25/2022

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Lab Job No: 202201901
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213488	2022-0034-A180 Cove Base Interior Kitchen		NONE DETECTED		None detected	Vinyl + other	2/25/2022
	<u>Layer</u> <u>Brown covebase</u>						
	Comments						
202213488	2022-0034-A180 Cove Base Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202213489	2022-0034-A181 Cove Base Interior Kitchen		NONE DETECTED		None detected	Vinyl + other	2/25/2022
	<u>Layer</u> <u>Brown covebase</u>						
	Comments						
202213489	2022-0034-A181 Cove Base Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202213490	2022-0034-A182 Cove Base Interior Kitchen		NONE DETECTED		None detected	Vinyl + other	2/25/2022
	<u>Layer</u> <u>Brown covebase</u>						
	Comments						
202213490	2022-0034-A182 Cove Base Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/25/2022
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202213490	2022-0034-A182 Cove Base Interior Kitchen		NONE DETECTED		Cellulose (undulose)	20 Calcite + binder	2/25/2022
	<u>Layer</u> <u>White joint compound / paper</u>						
	Comments						
202213491	2022-0034-A183 Drywall Wall Interior All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201901
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/17/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213491	2022-0034-A183 Drywall Wall Interior All Rooms		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
<u>Layer</u>	<u>Yellowish texture paint</u>						
Comments							
202213492	2022-0034-A184 Drywall Wall Interior All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213492	2022-0034-A184 Drywall Wall Interior All Rooms		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
<u>Layer</u>	<u>Yellowish texture paint</u>						
Comments							
202213493	2022-0034-A185 Drywall Wall Interior All Rooms		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213493	2022-0034-A185 Drywall Wall Interior All Rooms		NONE DETECTED		None detected	Calcite + binder + paint	2/25/2022
<u>Layer</u>	<u>Yellowish texture paint</u>						
Comments							

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401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201901
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/17/22

General Comments

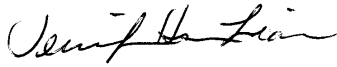
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Jennifer Hsu Liao
Laboratory Manager

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Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
157 Krauss Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

20220190

Lab Report No.:

~~202201618~~ ^{ih}

2/28/22

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A174	Tile Interior Kitchen	2/17/22	Bulk		PLM		202213482
2022-0034-A175	Tile Interior Kitchen	2/17/22	Bulk		PLM		202213483
2022-0034-A176	Tile Interior Kitchen	2/17/22	Bulk		PLM		202213484
2022-0034-A177	Tile Interior Bedroom 1,2	2/17/22	Bulk		PLM		202213485
2022-0034-A178	Tile Interior Bedroom 1,3	2/17/22	Bulk		PLM		202213486
2022-0034-A179	Tile Interior Bedroom 1,4	2/17/22	Bulk		PLM		202213487
2022-0034-A180	Cove Base Interior Kitchen	2/17/22	Bulk		PLM		202213488
2022-0034-A181	Cove Base Interior Kitchen	2/17/22	Bulk		PLM		202213489
2022-0034-A182	Cove Base Interior Kitchen	2/17/22	Bulk		PLM		202213490
2022-0034-A183	Drywall Wall Interior All Rooms	2/17/22	Bulk		PLM		202213491
2022-0034-A184	Drywall Wall Interior All Rooms	2/17/22	Bulk		PLM		202213492
2022-0034-A185	Drywall Wall Interior All Rooms	2/17/22	Bulk		PLM		202213493
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai		2/17/22		Eva Skogsberg		2/20/22 10:35am	

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

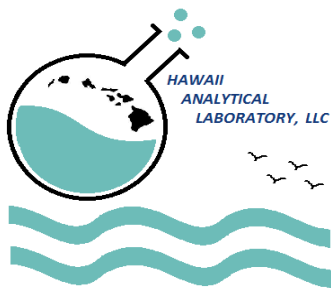
☒ via drop box

☐ via FedEx

☐ via pick up

awb# 173

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201628
Date Submitted: 2/22/2022
Your Project: 2022-0034, 369 Desha Ave., 2/17/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213631	2022-0034-L64 Carport Ceiling	< 40	mg/kg	2/22/2022
Comments				
202213633	2022-0034-L66 Outdoor Walls	< 40	mg/kg	2/22/2022
Comments				
202213634	2022-0034-L67 Entry Door Frame and Carport Storage	< 40	mg/kg	2/22/2022
Comments				
202213635	2022-0034-L68 Entry Door	130	mg/kg	2/22/2022
Comments				
202213636	2022-0034-L69 Inside Walls	< 40	mg/kg	2/22/2022
Comments				
202213637	2022-0034-L70 Inside Door Frame and Window Frame	< 40	mg/kg	2/22/2022
Comments				
202213638	2022-0034-L71 Bedroom 3 and Bathroom	< 40	mg/kg	2/22/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201628
Date Submitted: 2/22/2022
Your Project: 2022-0034, 369 Desha Ave., 2/17/22

Total Recoverable Arsenic (FAAS)

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213632	2022-0034-L65 Carport Storage	< 39	mg/kg	2/22/2022
Comments				

Total Recoverable Lead

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213632	2022-0034-L65 Carport Storage	< 40	mg/kg	2/22/2022
Comments				

All Quality Control data are acceptable unless otherwise noted.

MRL for lead air is 5ug.

MRL for lead wipe is 10ug.

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

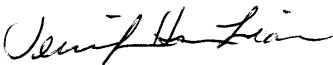
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

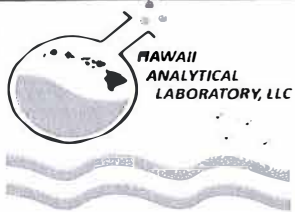
= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:

369 Desha Ave

Client Project No.:

2022-0034

Verbal results?

☐

Sampled By & Certif. # :

Leah Barkai PB-1269

Special Instructions:

Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201628

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L64	Carport ceiling	2/17/22	Bulk		Lead		202213631
2022-0034-L65	Carport storage	2/17/22	Bulk		Lead and arsenic	arsenic	202213632
2022-0034-L66	Outdoor walls	2/17/22	Bulk		Lead		202213633
2022-0034-L67	Entry door frame and carport storage	2/17/22	Bulk		Lead		202213634
2022-0034-L68	Entry door	2/17/22	Bulk		Lead		202213635
2022-0034-L69	Inside walls	2/17/22	Bulk		Lead		202213636
2022-0034-L70	Inside door frame and window frame	2/17/22	Bulk		Lead		202213637
2022-0034-L71	Bedroom 3 and bathroom	2/17/22	Bulk		Lead		202213638

Relinquished By (Print and Sign)

Leah Barkai

Date/Time

Date/Time

Received By (Print and Sign)

Eva Skogsberg

Date/Time

2/20/22 11:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

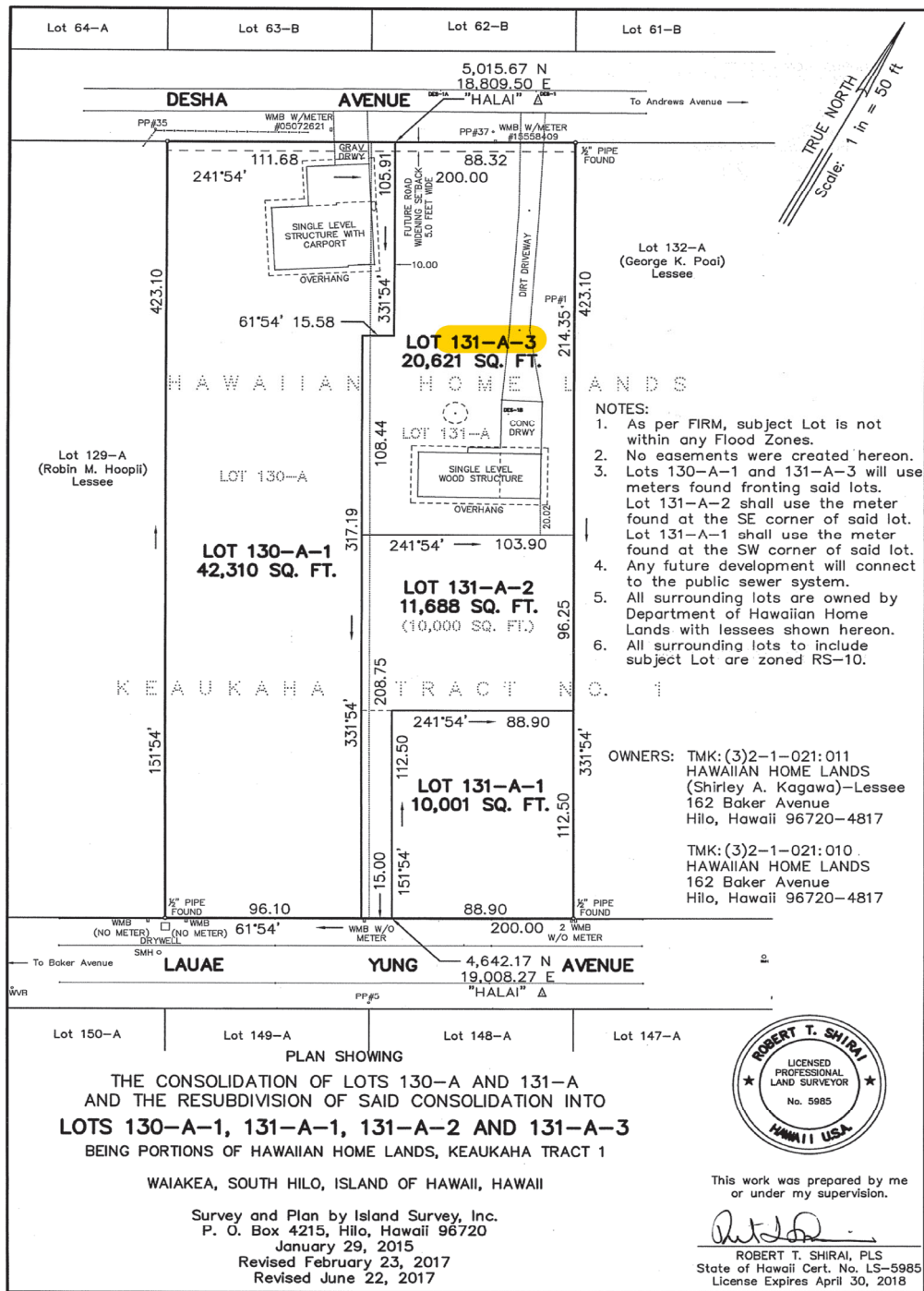
☐ via FedEx

☐ via pick up

awb#: 173

Page: 5 of 5

TMK (3)2-1-021:010:0000
 LOT No. 131-A-3
 372 Desha Avenue
 HILO, HAWAII ISLAND



Tax Map Key: (3)2-1-021:010 & 011

R-1230-E

Size: 10" x 15" = 1.04 Sq. Ft.

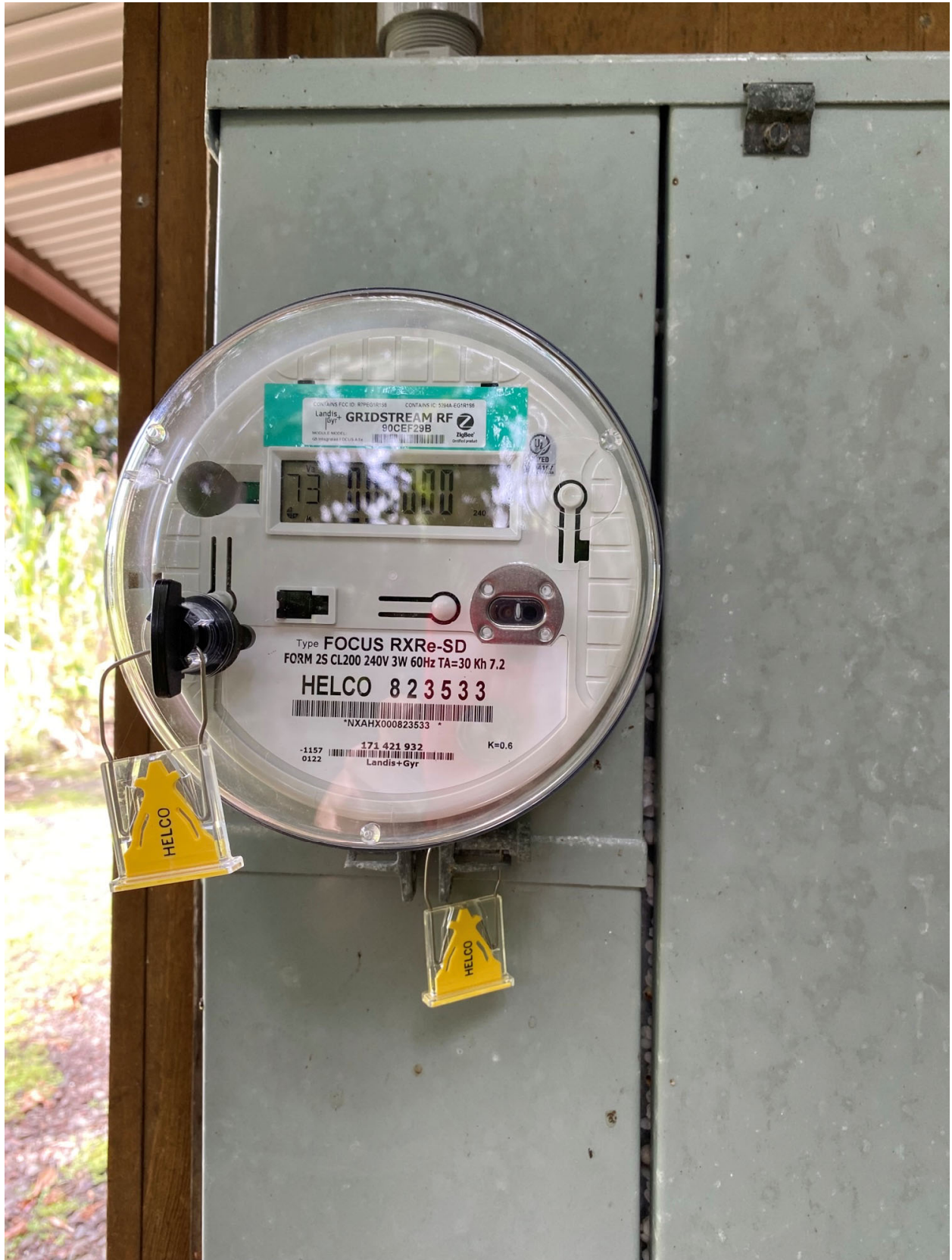


Image capture: Sep 2011 © 2021 Google









HAZARDOUS MATERIALS SURVEY REPORT
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010
Hilo, Hawaii

Survey Conducted On:
February 15, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIAKAMILO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 372 Desha Avenue, Hilo, HI 96720 Lot No. 131-A-3, TMK (3) 2-1-021:010. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

There were asbestos-containing materials found in the kitchen floor tile and black sink undercoating. See Summary of Asbestos-Containing Materials table below for materials, locations, conditions, and estimated quantities and Section 6.1 Asbestos for recommendations.

Summary of Asbestos-Containing Materials 372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010

Asbestos-Containing Materials	Location	Condition	Estimated Quantity (Affected Area)
Beige floor tile (Photo 2)	Kitchen	Damaged	47 ft ²
Black sink undercoating (Photo 3)	Kitchen	Damaged	8 ft ²

There were no lead-containing paint (LCP) and lead-based paints (LBP) found on the property.

There were no arsenic found on the structure.

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 372 Desha Avenue, Hilo, HI 96720 Lot No. 131-A-3, TMK (3) 2-1-021:010. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.
building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

5.0 Observations and Results

372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010 was a one-story house (Photo no. 1). The exterior of the house was poor with the paint coming off the walls and discolored. The open carport ceiling, water storage room wall and the closet wall and ceiling all had some holes on it. Inside the house, there were a couple of holes on the ceiling otherwise the rooms were in pretty good condition. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of twenty-one (21) suspect ACM samples were collected from the carport, exterior foundation, kitchen, exterior closet, and interior ceiling. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Carport

- White drywall and white joint compound/white paint

Exterior Foundation

- Gray concrete and yellow textured paint

Kitchen

- Beige floor tile with yellow mastic

Exterior Closet

- Off-white joint compound
- White drywall

Interior Ceiling

- Off-white joint compound
- White drywall

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010
Collected on February 15, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A46	Carport Ceiling	White Drywall	NAD	M	F	No
		White joint compound/white paint	NAD	M	NF	No
2022-0034-A47	Carport Ceiling	White Drywall	NAD	M	F	No
		White joint compound/white paint	NAD	M	NF	No
2022-0034-A48	Carport Ceiling	White Drywall	NAD	M	F	No
2022-0034-A49	Bedroom #2 Foundation	Gray concrete	NAD	M	NF	No
		Yellow textured paint	NAD	M	NF	No
2022-0034-A50	Kitchen Foundation	Gray concrete	NAD	M	NF	No
		Yellow textured paint	NAD	M	NF	No
2022-0034-A51	Bedroom #3 Foundation	Gray concrete	NAD	M	NF	No
		Yellow textured paint	NAD	M	NF	No
2022-0034-A52	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Yellow mastic	NAD	M	NF	No
2022-0034-A53	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Yellow mastic	NAD	M	NF	No
2022-0034-A54	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Yellow mastic	NAD	M	NF	No
2022-0034-A55	Exterior Closet Wall	Off-white joint compound/white paint	NAD	M	NF	No
		White drywall	NAD	M	F	No
2022-0034-A56	Exterior Closet Wall	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A57	Exterior Closet Wall	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A58	Exterior Closet Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A59	Exterior Closet Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A60	Exterior Closet Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No

¹ NAD = No asbestos detected

² Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

³ F=Friable, NF=Non-Friable

⁴ Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (cont.)
Asbestos Sampling Results
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010
Collected on February 15, 2022

2022-0034-A61	Kitchen Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A62	Kitchen Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A63	Kitchen Ceiling	Off-white joint compound/white paint	NAD	M	NF	No
		White Drywall	NAD	M	F	No
2022-0034-A64	Kitcehn Sink Undercoating	Black sink undercoating	4% Chrysotile	S	NF	Yes
2022-0034-A65	Kitcehn Sink Undercoating	Black sink undercoating	4% Chrysotile	S	NF	Yes
2022-0034-A66	Kitcehn Sink Undercoating	Black sink undercoating	4% Chrysotile	S	NF	Yes

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of nine (9) XRF readings and paint chip samples were collected from the carport, exterior, and interior of the house. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Carport

- White paint on drywall ceiling

Exterior

- Brown paint on wood door
- Tan paint on wood roof trim
- Brown paint on wood roof trim
- White paint on wood wall
- White paint on drywall ceiling

Interior

- White paint on metal door
- Tan paint on wood door frame

- White paint on drywall ceiling

Table 2 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.2 for the Laboratory Data and Chain-of-Custody Documentation.

Table 2
XRF and Paint Chip Sampling Results
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010
Collected on February 15, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
16	Carport Ceiling	White	Ceiling	Drywall	0	2022-0034-L16	< 40	No	No
17	Entry Door	White	Door	Metal	0	2022-0034-L17	< 40	No	No
18	Door of Water Storage Room	Brown	Door	Wood	0	2022-0034-L18	< 40	No	No
19	Entry Door Frame	Tan	Door frame	Wood	0	2022-0034-L19	< 40	No	No
20	North Roof Trim	Tan	Roof trim	Wood	0	2022-0034-L20	< 40	No	No
21	South Roof Trim	Brown	Roof trim	Wood	0	2022-0034-L21	< 40	No	No
22	White Wall of Closet	White	Wall	Wood	0	2022-0034-L22	< 40	No	No
23	Inside Ceiling of Living Room	White	Ceiling	Drywall	0	2022-0034-L23	< 40	No	No
24	Hallway Ceiling	White	Ceiling	Drywall	0	2022-0034-L24	< 40	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average.

Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 $\mu\text{g}/\text{m}^3$).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

7.0 Limitations

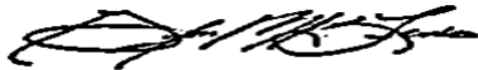
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2: Kitchen

Asbestos-containing beige vinyl floor tiles.

Yellow mastic did not contain asbestos.



Photo No. 3: Kitchen

Asbestos-containing black sink undercoating.

Section 11.0
Homogeneous Area
and
Sample Location Plan

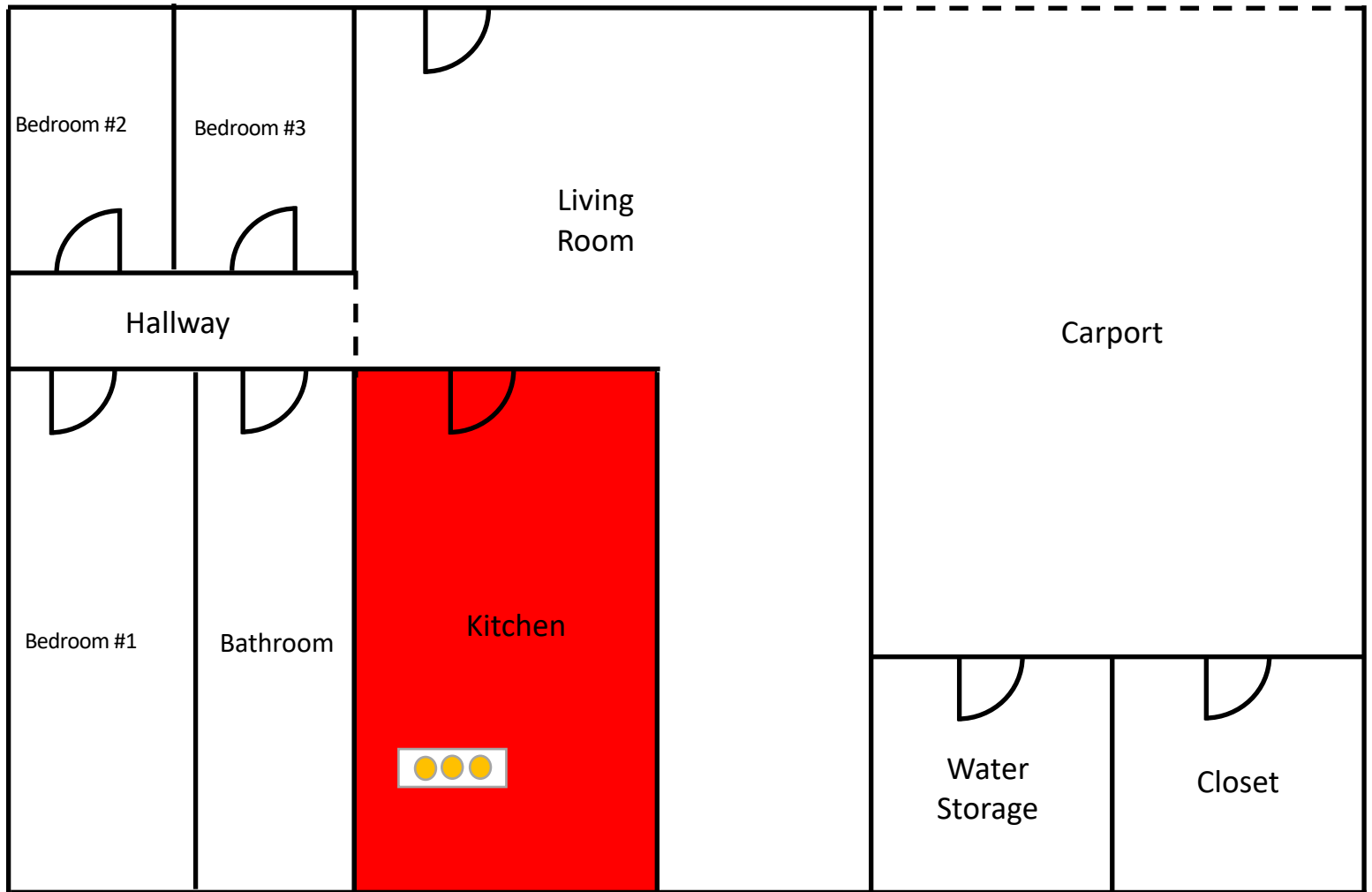


Site Location Map
MEC Project No.: 2022-0034



SITE LOCATION:
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-
1-021:010



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823



Legend:

-  Asbestos-containing beige floor tile
-  Asbestos-containing black sink undercoating

Sketch Not to Scale

Asbestos Homogeneous Area Plan
MEC Project No.: 2022-0034

SITE LOCATION:
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-
1-021:010



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2022-0034-A51		
Gray concrete	N	
Yellow textured paint	N	

2022-0034-A47		
White Drywall	N	

2022-0034-A49		
Gray concrete	N	
Yellow textured paint	N	

2022-0034-A54		
Beige floor tile	Y	
Yellow mastic	N	

2022-0034-A48		
White Drywall	N	
White joint compound/white paint	N	

2022-0034-A46		
White Drywall	N	
White joint compound/white paint	N	

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

2022-0034-A52		
Beige floor tile	Y	
Yellow mastic	N	

2022-0034-A50		
Gray concrete	N	
Yellow textured paint	N	

2022-0034-A53		
Beige floor tile	Y	
Yellow mastic	N	

Note: Red, bold text indicates asbestos-containing

Asbestos Sample Location Plan
Samples A46-54
MEC Project No.: 2022-0034

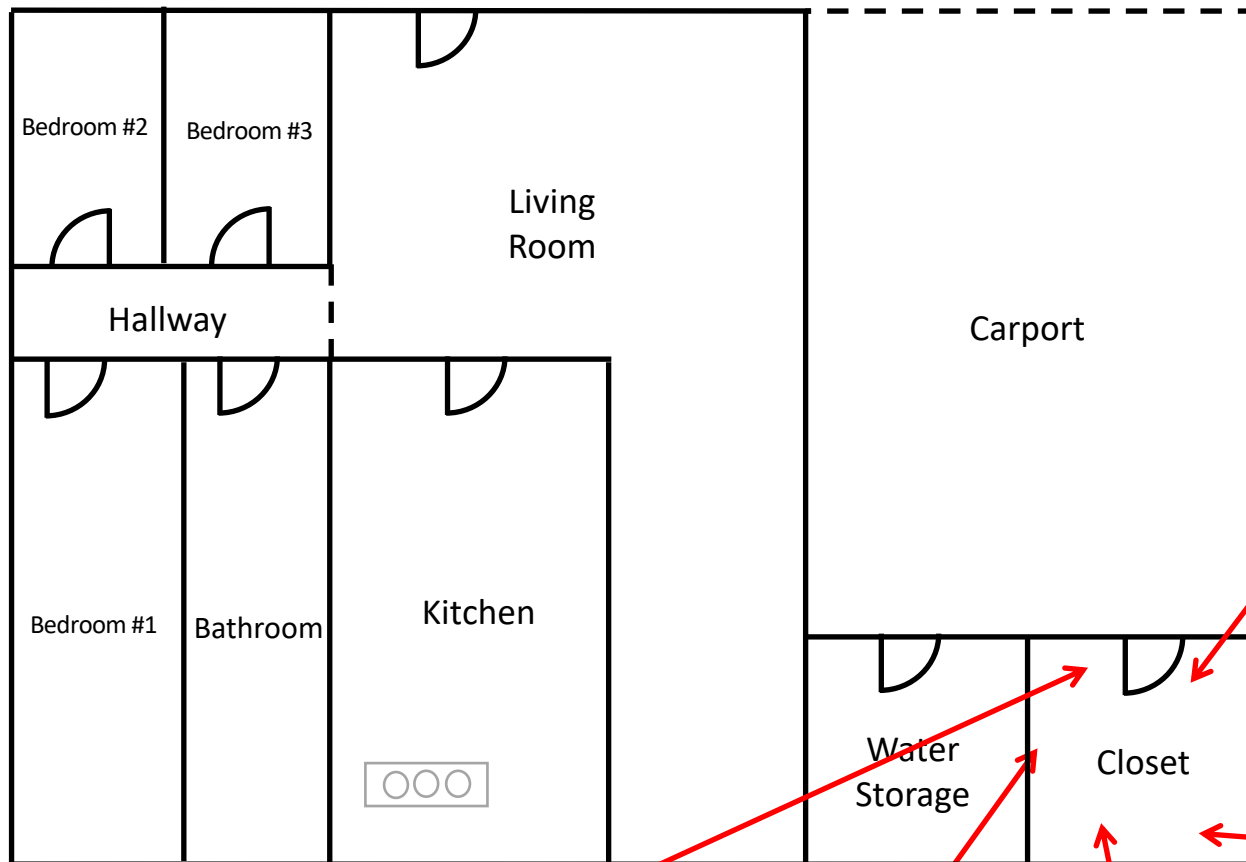
SITE LOCATION:

372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010



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Sketch Not to Scale



2022-0034-A59		
Off-white joint compound/white paint		N
White drywall		N

2022-0034-A57		
Off-white joint compound/white paint		N
White drywall		N

2022-0034-A58		
Off-white joint compound/white paint		N
White drywall		N

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

2022-0034-A60		
Off-white joint compound/white paint		N
White drywall		N

2022-0034-A56		
Off-white joint compound/white paint		N
White drywall		N

2022-0034-A55		
Off-white joint compound/white paint		N
White drywall		N

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A55-60
MEC Project No.: 2022-0034

Drawing No: HZ-4

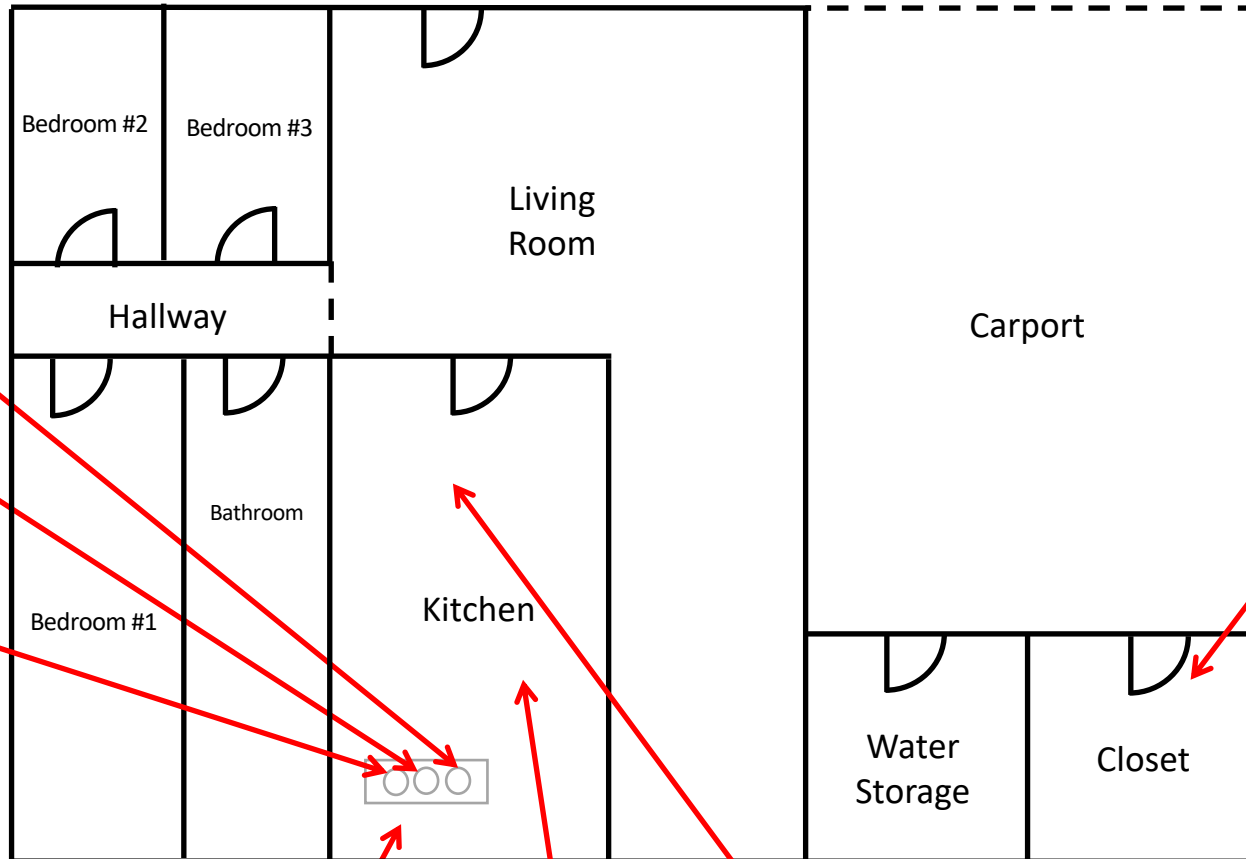
Page 4 of 6

SITE LOCATION:

372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010



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2022-0034-A64	
Black sink undercoating	Y
2022-0034-A64	
Black sink undercoating	Y
2022-0034-A66	
Black sink undercoating	Y

2022-0034-A59	
Off-white joint compound/white paint	N
White drywall	N

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

2022-0034-A61	
Off-white joint compound/white paint	N
White drywall	N

2022-0034-A62	
Off-white joint compound/white paint	N
White drywall	N

2022-0034-A63	
Off-white joint compound/white paint	N
White drywall	N

Note: Red, bold text indicates asbestos-containing

Sketch Not to Scale

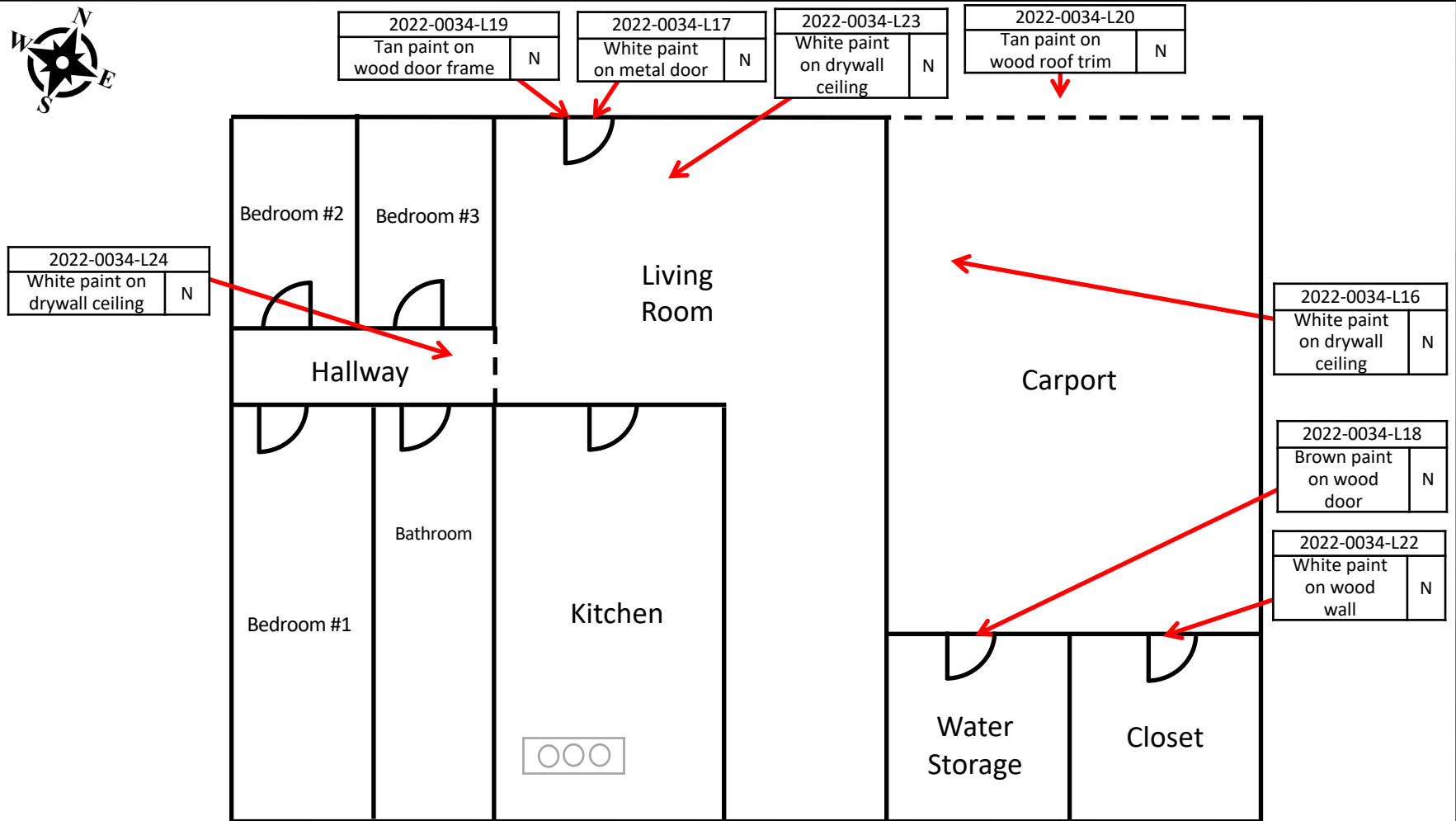
Asbestos Sample Location Plan
Samples A61-66
MEC Project No.: 2022-0034

SITE LOCATION:

372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-1-021:010



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Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

* - Lead-based

2022-0034-L21	
Brown paint on wood roof trim	N

Sketch Not to Scale

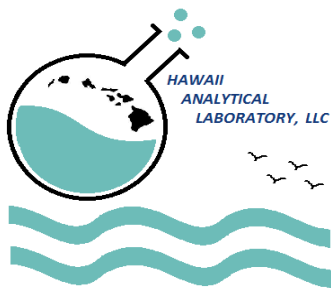
Lead Sample Location Plan
Samples L16-24
MEC Project No.: 2022-0034

SITE LOCATION:
372 Desha Avenue Lot No. 131-A-3, TMK (3) 2-
1-021:010



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Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Tuesday, March 1, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213494	2022-0034-A46 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213494	2022-0034-A46 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose)	2 Calcite + paint	2/23/2022
<u>Layer</u>	<u>White joint compound / paint (limited)</u>						
Comments							
202213495	2022-0034-A47 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213495	2022-0034-A47 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose)	2 Calcite + paint	2/23/2022
<u>Layer</u>	<u>White joint compound / paint (limited)</u>						
Comments							
202213496	2022-0034-A48 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum + quartz	2/23/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213497	2022-0034-A49 Concrete Foundation Exterior		NONE DETECTED		None detected	Calcite + quartz	2/24/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213497	2022-0034-A49 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + calcite	2/24/2022
	<u>Layer</u> <u>Yellow textured paint</u>						
	Comments						
202213498	2022-0034-A50 Concrete Foundation Exterior		NONE DETECTED		None detected	Calcite + quartz	2/24/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213498	2022-0034-A50 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + calcite	2/24/2022
	<u>Layer</u> <u>Yellow textured paint</u>						
	Comments						
202213499	2022-0034-A51 Concrete Foundation Exterior		NONE DETECTED		None detected	Calcite + quartz	2/24/2022
	<u>Layer</u> <u>Gray concrete</u>						
	Comments						
202213499	2022-0034-A51 Concrete Foundation Exterior		NONE DETECTED		None detected	Paint + calcite	2/24/2022
	<u>Layer</u> <u>Yellow textured paint</u>						
	Comments						
202213500	2022-0034-A52 Tile Interior Kitchen	Yes	Chrysotile	2	None detected	Vinyl	2/24/2022
	<u>Layer</u> <u>Beige floor tile</u>						
	Comments						
202213500	2022-0034-A52 Tile Interior Kitchen		NONE DETECTED		None detected	Binder + other	2/24/2022
	<u>Layer</u> <u>Yellow mastic</u>						
	Comments						

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Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213501	2022-0034-A53 Tile Interior Kitchen <u>Layer</u> <u>Beige floor tile</u> Comments	Yes	Chrysotile	2	None detected		Vinyl	2/24/2022
202213501	2022-0034-A53 Tile Interior Kitchen <u>Layer</u> <u>Yellow mastic</u> Comments		NONE DETECTED		None detected		Binder + other	2/24/2022
202213502	2022-0034-A54 Tile Interior Kitchen <u>Layer</u> <u>Beige floor tile</u> Comments	Yes	Chrysotile	2	None detected		Vinyl	2/24/2022
202213502	2022-0034-A54 Tile Interior Kitchen <u>Layer</u> <u>Yellow mastic</u> Comments		NONE DETECTED		None detected		Binder + other	2/24/2022
202213503	2022-0034-A55 Drywall Wall Exterior Closet <u>Layer</u> <u>Off-white joint compound / white paint</u> Comments		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
202213503	2022-0034-A55 Drywall Wall Exterior Closet <u>Layer</u> <u>White drywall</u> Comments		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
202213504	2022-0034-A56 Drywall Wall Exterior Closet <u>Layer</u> <u>Off-white joint compound / white paint</u> Comments		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022

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Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213504	2022-0034-A56 Drywall Wall Exterior Closet		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213508	2022-0034-A57 Drywall Wall Exterior Closet		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213508	2022-0034-A57 Drywall Wall Exterior Closet		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213509	2022-0034-A58 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213509	2022-0034-A58 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213510	2022-0034-A59 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213510	2022-0034-A59 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								

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Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213511	2022-0034-A60 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213511	2022-0034-A60 Drywall Ceiling Exterior Closet		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213512	2022-0034-A61 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213512	2022-0034-A61 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213513	2022-0034-A62 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/23/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								
202213513	2022-0034-A62 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + quartz	2/23/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213514	2022-0034-A63 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + wollastonite (+/- optical sign)	2	Calcite + paint	2/24/2022
<u>Layer</u>	<u>Off-white joint compound / white paint</u>							
Comments								

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Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213514	2022-0034-A63 Drywall Ceiling Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + quartz	2/24/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213515	2022-0034-A64 Sink Undercoating Interior Kitchen	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/24/2022
<u>Layer</u>	<u>Black sink undercoating</u>							
Comments								
202213516	2022-0034-A65 Sink Undercoating Interior Kitchen	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/24/2022
<u>Layer</u>	<u>Black sink undercoating</u>							
Comments								
202213517	2022-0034-A66 Sink Undercoating Interior Kitchen	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/24/2022
<u>Layer</u>	<u>Black sink undercoating</u>							
Comments								

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Mr. Mark Muranaka
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401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201619
Date Submitted: 2/20/2022
Your Project: 2022-0034, 372 Desha Ave, 2/15/22

General Comments

The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Eva Skogsberg
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
372 Desha Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranaenvironmental.com

**Per client - AA 2/22/22*

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201619

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A46	Drywall ceiling Exterior Carport	2/15/22	Bulk		PLM		202213494
2022-0034-A47	Drywall ceiling Exterior Carport	2/15/22	Bulk		PLM		202213495
2022-0034-A48	Drywall ceiling Exterior Carport	2/15/22	Bulk		PLM		202213496
2022-0034-A49	Concrete Foundaion Exterior	2/15/22	Bulk		PLM		202213497
2022-0034-A50	Concrete Foundaion Exterior	2/15/22	Bulk		PLM		202213498
2022-0034-A51	Concrete Foundaion Exterior	2/15/22	Bulk		PLM		202213499
2022-0034-A52	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213500
2022-0034-A53	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213501
2022-0034-A54	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213502
2022-0034-A55	Drywall wall Wall Exterior Closet	2/15/22	Bulk		PLM		202213503
2022-0034-A56	Drywall wall Wall Exterior Closet	2/15/22	Bulk		PLM		202213504
2022-0034-A57	Drywall wall Wall Exterior Closet	2/15/22	Bulk		PLM		202213505
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai		2/15/22		[Signature]		2/20/22 10:40am	

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb# 173.....

Page: 5 of 5



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
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Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
372 Desha Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201619

* Per client - AA 2/24/22

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A55	Drywall Wall Exterior Closet	2/15/22	Bulk		PLM		202213506
2022-0034-A56	Drywall Wall Exterior Closet	2/15/22	Bulk		PLM		202213507
2022-0034-A57	Drywall Wall Exterior Closet	2/15/22	Bulk		PLM		202213508
2022-0034-A58	Drywall Ceiling Exterior Closet	2/15/22	Bulk		PLM		202213509
2022-0034-A59	Drywall Ceiling Exterior Closet	2/15/22	Bulk		PLM		202213510
2022-0034-A60	Drywall Ceiling Exterior Closet	2/15/22	Bulk		PLM		202213511
2022-0034-A61	Drywall Ceiling Interior	2/15/22	Bulk		PLM		202213512
2022-0034-A62	Drywall Ceiling Interior	2/15/22	Bulk		PLM		202213513
2022-0034-A63	Drywall Ceiling Interior	2/15/22	Bulk		PLM		202213514
2022-0034-A64	Sink Undercoating Interior Kitchen	2/15/22	Bulk		PLM		202213515
2022-0034-A65	Sink Undercoating Interior Kitchen	2/15/22	Bulk		PLM		202213516
2022-0034-A66	Sink Undercoating Interior Kitchen	2/15/22	Bulk		PLM		202213517
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai		2/15/22		Eva Skogsberg		2/20/22 10:40am	

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

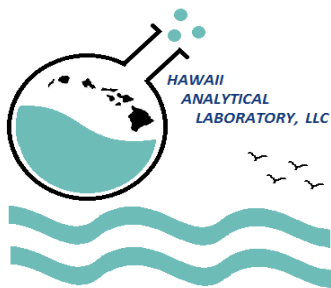
☒ via drop box

☐ via FedEx

☐ via pick up

awb#: 173-.....

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201627
Date Submitted: 2/22/2022
Your Project: 2022-0034, 372 Desha Ave., 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213622	2022-0034-L16 Carport Ceiling	< 40	mg/kg	2/23/2022
Comments				
202213623	2022-0034-L17 Entry Door	< 40	mg/kg	2/23/2022
Comments				
202213624	2022-0034-L18 Door	< 40	mg/kg	2/23/2022
Comments				
202213625	2022-0034-L19 Entry Door Frame	< 40	mg/kg	2/23/2022
Comments				
202213626	2022-0034-L20 Roof Trim	< 40	mg/kg	2/23/2022
Comments				
202213627	2022-0034-L21 Roof Trim	< 40	mg/kg	2/23/2022
Comments				
202213628	2022-0034-L22 White Wall	< 40	mg/kg	2/23/2022
Comments				
202213629	2022-0034-L23 Living room Ceiling	< 40	mg/kg	2/23/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka

Muranaka Environmental Consultants, Inc.

401 Waiakamilo Rd, Suite 101

Honolulu HI 96817

Phone Number: (808)845-8822

Facsimile: (808) 845-8823

Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201627

Date Submitted: 2/22/2022

Your Project: 2022-0034, 372 Desha Ave., 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213630	2022-0034-L24 Hallway Ceiling	< 40	mg/kg	2/23/2022
Comments				

All Quality Control data are acceptable unless otherwise noted.

MRL for lead air is 5ug.

MRL for lead wipe is 10ug.

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

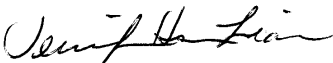
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao

Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
372 Desha Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Leah Barkai PB-1269

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201627

Lab Sample(s) No.:

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L16	Carport Ceiling	2/15/22	Bulk		Lead		202213622
2022-0034-L17	Entry Door	2/15/22	Bulk		Lead		202213623
2022-0034-L18	Door	2/15/22	Bulk		Lead		202213624
2022-0034-L19	Entry Door Frame	2/15/22	Bulk		Lead		202213625
2022-0034-L20	Roof Trim	2/15/22	Bulk		Lead		202213626
2022-0034-L21	Roof Trim	2/15/22	Bulk		Lead		202213627
2022-0034-L22	White Wall	2/15/22	Bulk		Lead		202213628
2022-0034-L23	Living room Ceiling	2/15/22	Bulk		Lead		202213629
2022-0034-L24	Hallway Ceiling	2/15/22	Bulk		Lead		202213630

Relinquished By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Received By (Print and Sign)

Date/Time

2/20/22 11:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb# 173-.....

TMK (3)2-1-022:097:0000
 LOT NO. 176D
 162-A Kauhane Avenue
 HILO, HAWAII ISLAND

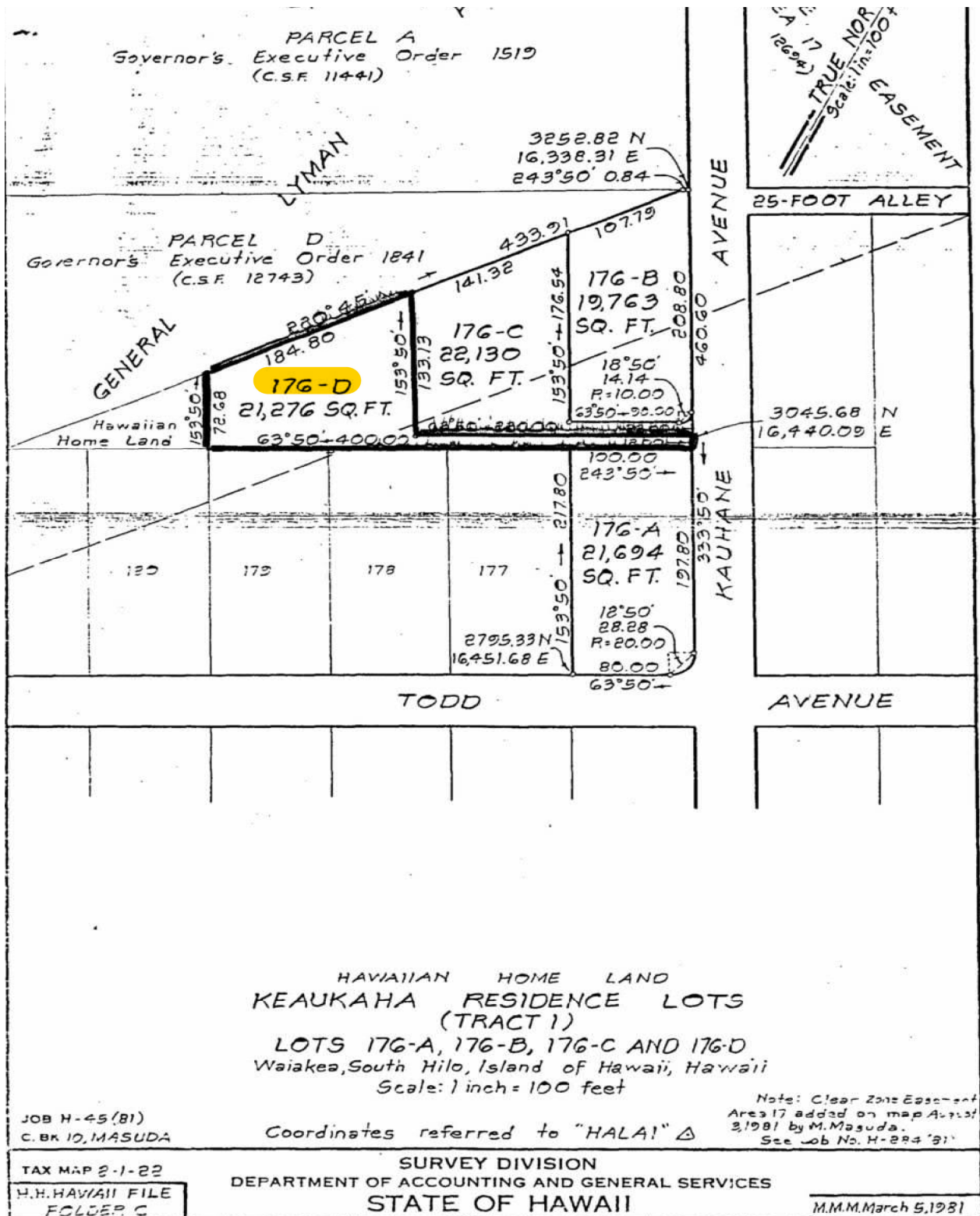
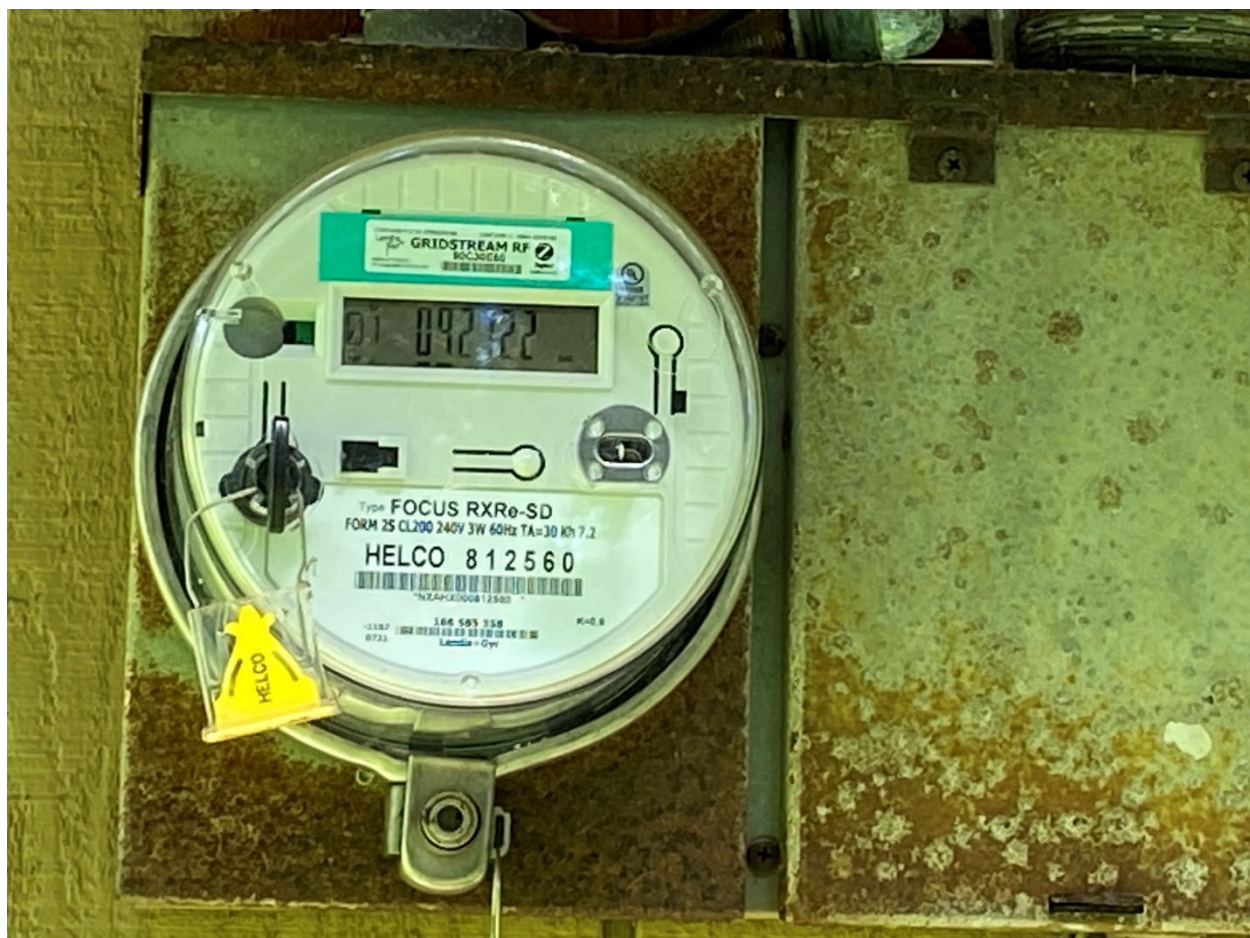




Image capture: Sep 2011 © 2021 Google







HAZARDOUS MATERIALS SURVEY REPORT
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Hilo, Hawai'i

Survey Conducted On:
February 15, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIKAMILO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 162-A Kauhane Avenue, Hilo, HI 96720 Lot No. 176D, TMK (3) 2-1-022:097. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

There were no asbestos containing materials found on the structure.

There were no lead-containing or lead-based paints found on the structure.

There were no arsenic found on the structure.

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 162-A Kauhane Avenue, Hilo, HI 96720 Lot No. 176D, TMK (3) 2-1-022:097. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than $1.0 \text{ milligram per square centimeter } (\text{mg}/\text{cm}^2)$ or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

5.0 Observations and Results

At the time of the inspection, a one-story, vacant house existed on the property (Photo no. 1). The prior tenant’s belongings were found throughout the home. The exterior paint was deteriorating and peeling. The interior walls were

damaged with holes and chipping paint. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of forty-five (45) samples were collected from the living room, bathroom, kitchen, hallway, and bedroom. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Exterior

- Solar panel silver wrap/yellow foam insulation
- Black foam copper pipe insulation
- Off-white caulking on window frame
- Concrete foundation

Living room

- White drywall ceiling with white texture and white paint
- White drywall wall with white texture and green paint
- White drywall wall with white texture and purple paint

Bathroom

- White drywall wall with white texture and green paint
- Beige sheet vinyl with paper backing

Kitchen

- White caulking
- Blue floor tile with yellow mastic

Hallway

- White drywall wall with white texture and white paint

Bedroom

- White drywall ceiling with white texture and blue paint
- White drywall ceiling with white texture and pink paint
- White joint compound/paper

Interior

- Blue ceramic tile with mesh
- Gray grout

The laboratory did not detect asbestos in any of the samples collected.

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Collected on February 15, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A01	Outside Solar Panel	Silver wrap/yellow foam insulation	NAD	M	NF	No
2022-0034-A02	Outside Solar Panel	Silver wrap/yellow foam insulation	NAD	M	NF	No
2022-0034-A03	Outside Solar Panel (Photo 2)	Silver wrap/yellow foam insulation	NAD	M	NF	No
2022-0034-A04	Outside Copper Pipe (Photo 2)	Black foam insulation	NAD	TSI	NF	No
2022-0034-A05	Outside Copper Pipe (Photo 2)	Black foam insulation	NAD	TSI	NF	No
2022-0034-A06	Outside Copper Pipe (Photo 2)	Black foam insulation	NAD	TSI	NF	No
2022-0034-A07	Laundry Room Window frame	Off-white caulking	NAD	M	NF	No
2022-0034-A08	Laundry Room Window frame	Off-white caulking	NAD	M	NF	No
2022-0034-A09	Laundry Room Window frame	Off-white caulking	NAD	M	NF	No
2022-0034-A10	Bedroom #2 Exterior Foundation (Photo 3)	Gray concrete	NAD	M	NF	No
2022-0034-A11	Bedroom #2 Exterior Foundation (Photo 3)	Gray concrete	NAD	M	NF	No
2022-0034-A12	Bedroom #4 Exterior Foundation (Photo 3)	Gray concrete	NAD	M	NF	No
2022-0034-A13	Living Room Ceiling (Photo 4)	White drywall	NAD	M	NF	No
		White texture/white paint	NAD	M	NF	No
2022-0034-A14	Living Room Ceiling (Photo 4)	White drywall	NAD	M	NF	No
		White texture/white paint	NAD	M	NF	No
2022-0034-A15	Hallway Ceiling (Photo 4)	White drywall	NAD	M	NF	No
		White texture/white paint	NAD	M	NF	No
2022-0034-A16	Bedroom #4 Wall (Photo 5)	White drywall	NAD	M	NF	No
		White texture/green paint	NAD	M	NF	No

¹ NAD = No asbestos detected

² Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

³ F=Friable, NF=Non-Friable

⁴ Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (continued)
Asbestos Sampling Results
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Collected on February 15, 2022

2022-0034-A17	Bedroom #4 Wall (Photo 5)	White drywall	NAD	M	NF	No
		White texture/green paint	NAD	M	NF	No
2022-0034-A18	Bedroom #4 Wall (Photo 5)	White drywall	NAD	M	NF	No
		White texture/green paint	NAD	M	NF	No
2022-0034-A19	Hallway Wall (Photo 5)	White drywall	NAD	M	F	No
2022-0034-A20	Living Room Wall (Photo 5)	White drywall	NAD	M	F	No
		White texture/purple paint	NAD	M	F	No
2022-0034-A21	Living Room Wall (Photo 5)	White drywall	NAD	M	F	No
		White texture/purple paint	NAD	M	F	No
2022-0034-A22	Bedroom #5 Wall (Photo 6)	White drywall	NAD	M	F	No
2022-0034-A23	Bedroom #5 Wall (Photo 6)	White drywall	NAD	M	F	No
		White texture/green paint	NAD	M	F	No
2022-0034-A24	Bathroom Wall (Photo 6)	White drywall	NAD	M	F	No
		White texture/green paint	NAD	M	F	No
2022-0034-A25	Bathroom Floor (Photo 6)	Beige sheet vinyl w/ paper backing	NAD	M	F	No
2022-0034-A26	Bathroom Floor (Photo 6)	Beige sheet vinyl w/ paper backing	NAD	M	F	No
2022-0034-A27	Bathroom Floor (Photo 6)	Beige sheet vinyl w/ paper backing	NAD	M	F	No
2022-0034-A28	Kitchen Cabinet (Photo 7)	White caulk	NAD	M	F	No
2022-0034-A29	Kitchen Cabinet (Photo 7)	White caulk	NAD	M	F	No
2022-0034-A30	Kitchen Cabinet (Photo 7)	White caulk	NAD	M	F	No
2022-0034-A31	Hallway Wall (Photo 5)	White drywall	NAD	M	F	No
		White texture/white paint	NAD	M	F	No
2022-0034-A32	Hallway Wall (Photo 5)	White drywall	NAD	M	F	No
		White texture/white paint	NAD	M	F	No
2022-0034-A33	Hallway Wall (Photo 5)	White drywall	NAD	M	F	No
2022-0034-A34	Kitchen Floor (Photo 8)	Blue floor tile	NAD	M	F	No
		Yellow mastic	NAD	M	F	No
2022-0034-A35	Kitchen Floor (Photo 8)	Blue floor tile	NAD	M	F	No
		Yellow mastic	NAD	M	F	No
2022-0034-A36	Kitchen Floor (Photo 8)	Blue floor tile	NAD	M	F	No
		Yellow mastic	NAD	M	F	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (continued)
Asbestos Sampling Results
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Collected on February 15, 2022

2022-0034-A37	Bedroom #5 Ceiling (Photo 9)	White drywall	NAD	M	F	No
		White texture/blue paint	NAD	M	F	No
2022-0034-A38	Bedroom #5 Ceiling (Photo 9)	White drywall	NAD	M	F	No
		White texture/blue paint	NAD	M	F	No
2022-0034-A39	Bedroom #5 Ceiling (Photo 9)	White drywall	NAD	M	F	No
		White texture/blue paint	NAD	M	F	No
2022-0034-A40	Kitchen Tile Countertops (Photo 10)	Blue ceramic tile/ mesh	NAD	M	F	No
		Gray grout	NAD	M	F	No
2022-0034-A41	Kitchen Tile Countertops (Photo 10)	Blue ceramic tile/ mesh	NAD	M	F	No
		Gray grout	NAD	M	F	No
2022-0034-A42	Kitchen Tile Countertops (Photo 10)	Blue ceramic tile/ mesh	NAD	M	F	No
		Gray grout	NAD	M	F	No
2022-0034-A43	Bedroom #1 Wall (Photo 11)	White drywall	NAD	M	F	No
		White texture/pink paint	NAD	M	F	No
2022-0034-A44	Bedroom #1 Wall (Photo 11)	White drywall	NAD	M	F	No
		White joint compound/paper	NAD	M	F	No
		White texture/pink paint	NAD	M	F	No
2022-0034-A45	Bedroom #1 Wall (Photo 11)	White drywall	NAD	M	F	No
		White texture/pink paint	NAD	M	F	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of fifteen (15) XRF readings and paint chip samples were collected from outside, living room, hallway, bedroom #3, bedroom #6, bedroom #1, bedroom #5, and bedroom #4. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Outside

- Tan/brown paint on exterior wall
- Sand paint on exterior wall
- Brown paint on exterior wall
- Red paint on exterior wall

Living room

- Sand paint on wood door frame
- Light grey paint on drywall wall
- White paint on ceiling

- Red paint on drywall wall

Hallway

- White paint on drywall wall

Bedroom #3

- White paint on wood door frame
- Green paint on drywall wall

Bathroom

- Light green paint on drywall wall

Bedroom #1

- Pink paint on drywall wall

Bedroom #5

- Baby blue paint on drywall wall

Bedroom #4

- Light blue paint on drywall wall

Table 2
XRF and Paint Chip Sampling Results
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Collected on February 15, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
1	Outside southeast wall (Photo 3)	Tan/brown	Wall	Wood	0.00	2022-0034-01L	< 39	No	No
2	Outside corner (Photo 3)	Sand	Wall	Wood	0.00	2022-0034-02L	< 39	No	No
3	Outside SW (Photo 3)	Brown	Wall	Wood	0.00	2022-0034-03L	< 39	No	No
4	Outside SW (Photo 3)	Red	Wall	Wood	0.00	2022-0034-04L	< 39	No	No
5	Front door frame (Photo 12)	Sand	Door frame	Wood	0.00	2022-0034-05L	< 39	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead paint in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

Table 2 (continued)
XRF and Paint Chip Sampling Results
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
Collected on February 15, 2022

6	Living room (Photo 4)	Light grey	Wall	Drywall	0.00	2022-0034-06L	< 39	No	No
7	Living room (Photo 4)	White	Ceiling	-	0.00	2022-0034-07L	< 39	No	No
8	Hallway (Photo 5)	White	Wall	Drywall	0.00	2022-0034-08L	< 39	No	No
9	Bedroom #3 (Photo 13)	White	Door frame	Wood	0.00	2022-0034-09L	< 39	No	No
10	Bedroom #3 (Photo 13)	Green	Wall	Drywall	0.00	2022-0034-10L	< 39	No	No
11	Bedroom #3 (Photo 14)	Red	Wall	Drywall	0.00	2022-0034-11L	< 39	No	No
12	Bathroom (Photo 6)	Light green	Wall	Drywall	0.00	2022-0034-12L	< 39	No	No
13	Bedroom #1 (Photo 11)	Pink	Wall	Drywall	0.00	2022-0034-13L	< 39	No	No
14	Bedroom #5 (Photo 9)	Baby blue	Wall	Drywall	0.00	2022-0034-14L	< 39	No	No
15	Bedroom #4	Light blue	Wall	Drywall	0.00	2022-0034-15L	< 39	No	No

1 milligram per square centimeter

2 milligrams per kilogram

3 OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead paint in the paint

4 According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average.

Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up.

Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air ($50 \mu\text{g}/\text{m}^3$).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

7.0 Limitations

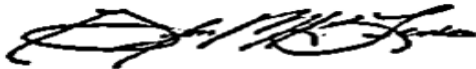
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
162-A Kauhane Avenue Lot No. 176D, TMK (3) 2-1-022:097
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2: Exterior of house

Black foam insulation and silver wrap/yellow foam insulation did not contain asbestos.



Photo No. 3: Exterior of house

Red paint on wood wall did not contain lead.

Tan/brown paint on wood wall did not contain lead.

Sand paint on wood wall did not contain lead.

Brown paint on wood wall did not contain lead.

Gray concrete did not contain asbestos.



Photo No. 4: Living Room

White drywall and white texture/white paint did not contain asbestos.

White paint on ceiling did not contain lead.

Light grey paint on drywall wall did not contain lead.



Photo No. 5: Living Room Hallway

White drywall, white texture/white paint, white texture/green paint, and white texture/purple paint did not contain asbestos.

White paint on drywall wall did not contain lead.



Photo No. 6: Bathroom

White drywall, white texture/green paint, and beige sheet vinyl with paper backing did not contain asbestos.

Light green paint on drywall wall did not contain lead.

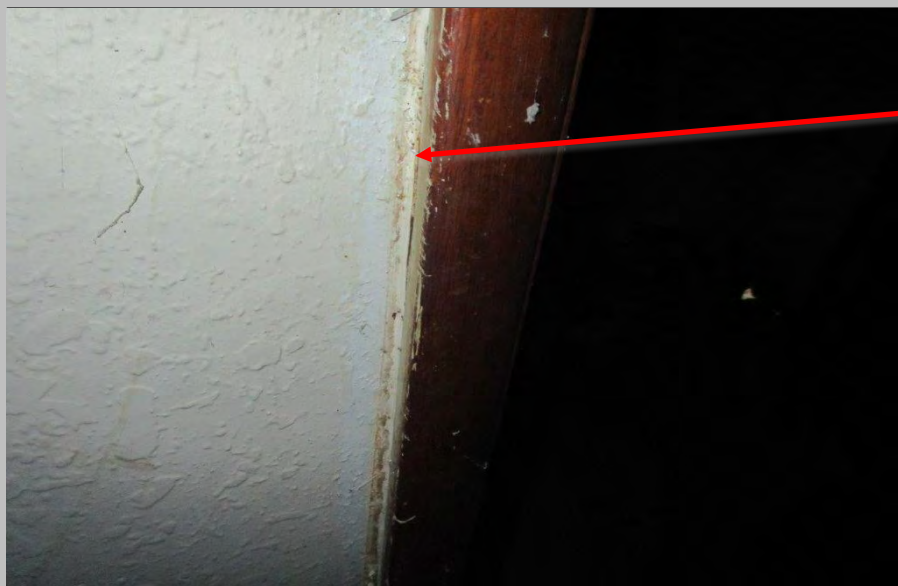


Photo No. 7: Kitchen

White caulking did not contain asbestos.



Photo No. 8: Kitchen

Blue floor tile and yellow mastic did not contain asbestos.



Photo No. 9: Bedroom #5

White drywall, and white texture/blue paint did not contain asbestos.

Baby blue paint on drywall wall did not contain lead.



Photo No. 10: Kitchen

Blue ceramic tile/mesh and gray grout did not contain asbestos.



Photo No. 11: Bedroom #1

White drywall, white joint compound/paper and white texture/pink paint did not contain asbestos.

Pink paint on drywall wall did not contain lead.



Photo No. 12: Front Door

Sand paint on wood door frame did not contain lead.



Photo No. 13: Bedroom #3

White paint on wood door frame and green paint on drywall wall did not contain lead.



Photo No. 14: Bedroom #3

Red paint on drywall wall and green paint on drywall did not contain lead.

Section 11.0
Homogeneous Area
and
Sample Location Plan



Site Location Map
MEC Project No.: 2022-0034

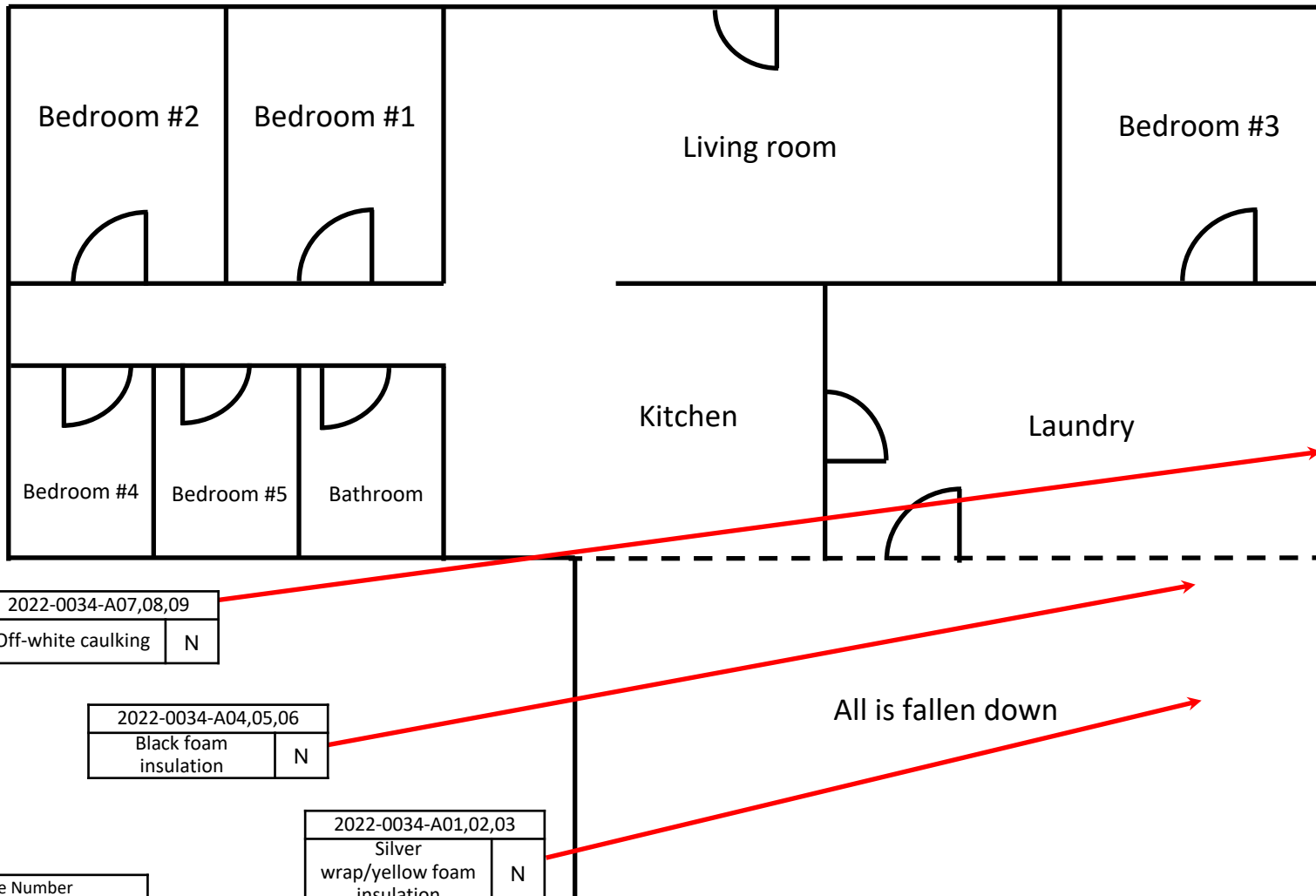
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Page 1 of 7

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Asbestos Sample Location Plan
Samples A01-09
MEC Project No.: 2022-0034

Drawing No: HZ-2

Page 2 of 7

SITE LOCATION:

162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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Sketch Not to Scale



2022-0034-A10,11	
Gray concrete	N

2022-0034-A14	
White Drywall	N
White Texture/ white paint	N

2022-0034-A13	
White Drywall	N
White Texture/ white paint	N

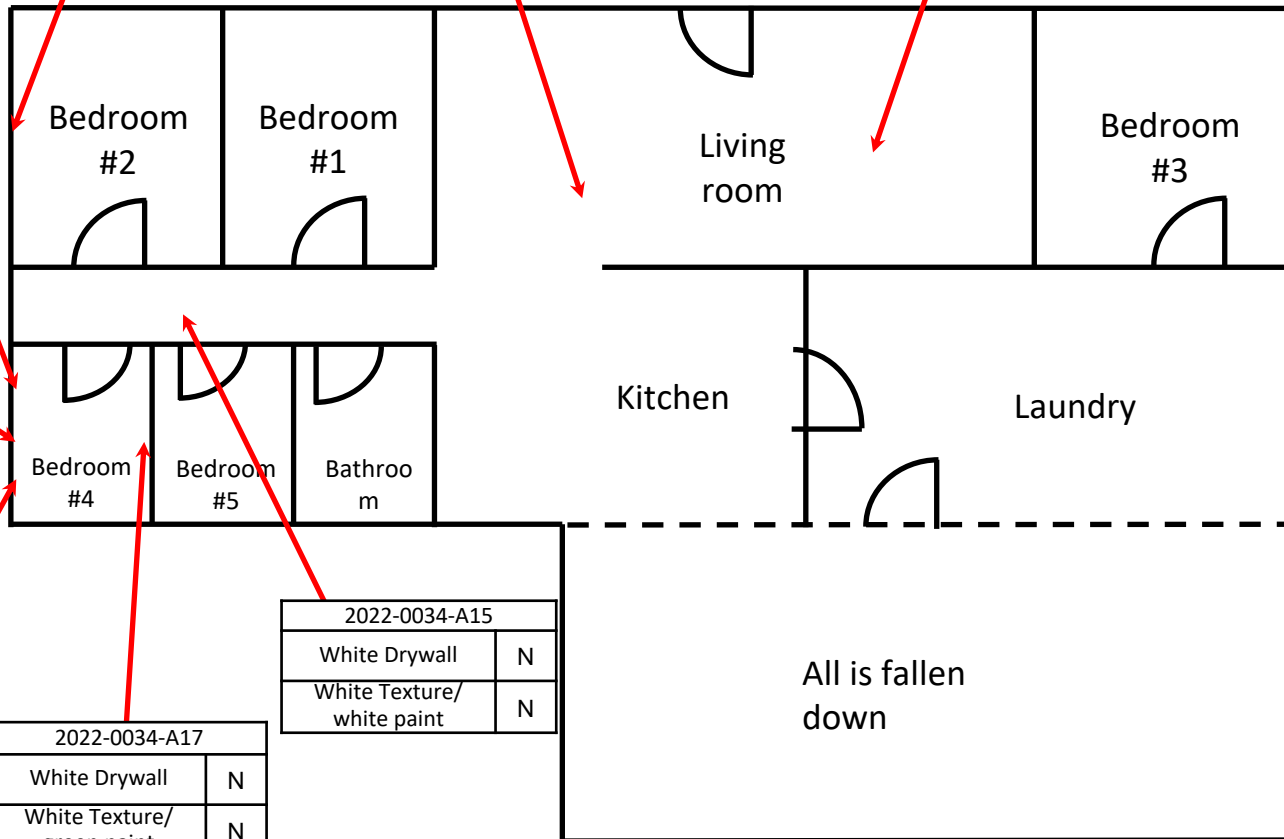
2022-0034-A16	
White Drywall	N
White Texture/ green paint	N

2022-0034-A12	
Gray concrete	N

2022-0034-A18	
White Drywall	N
White Texture/ green paint	N

2022-0034-A17	
White Drywall	N
White Texture/ green paint	N

2022-0034-A15	
White Drywall	N
White Texture/ white paint	N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A10-18
MEC Project No.: 2022-0034

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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2022-0034-A25,26		
Beige Sheet Vinyl with Paper Backing		N

2022-0034-A20		
White Drywall		N
White Texture/ purple paint		N

2022-0034-A21		
White Drywall		N
White Texture/ purple paint		N

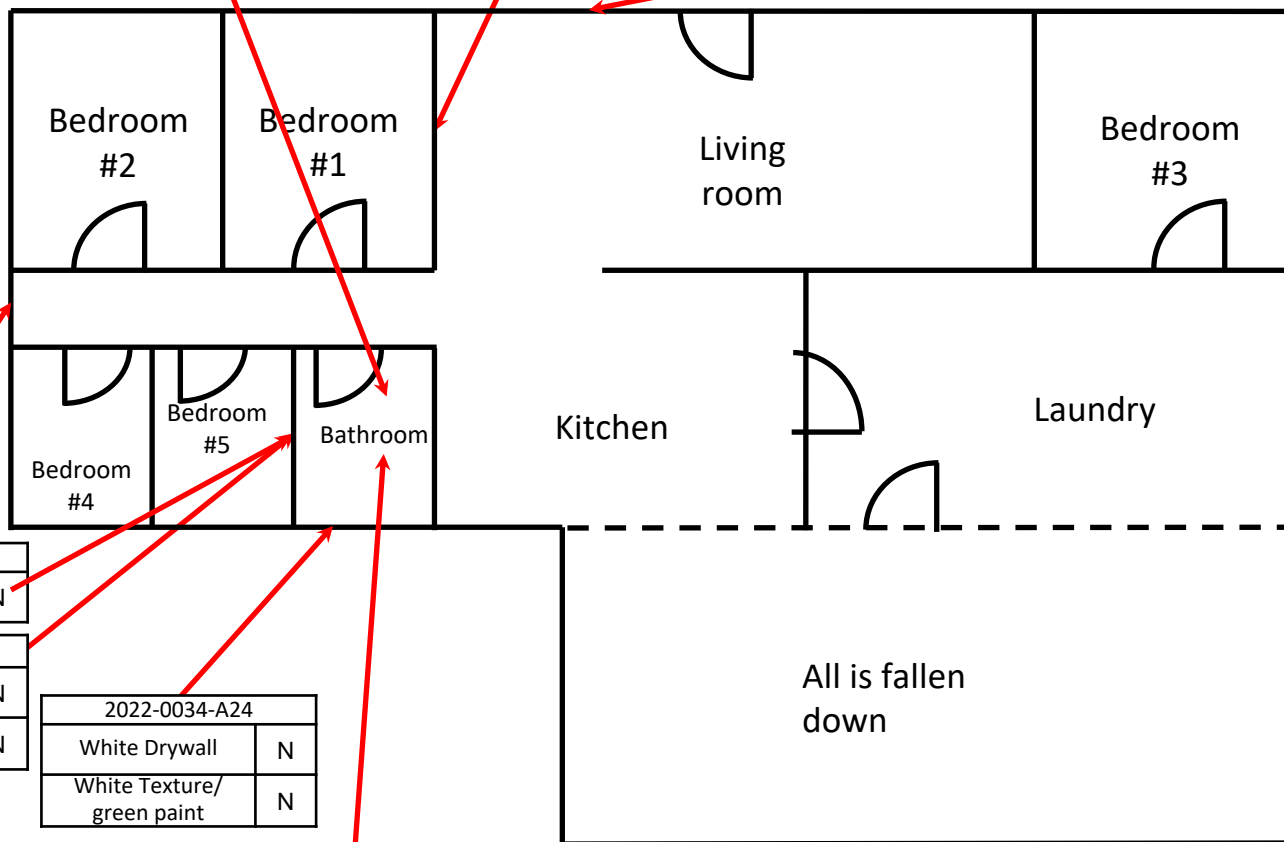
2022-0034-A19		
White Drywall		N

2022-0034-A22		
White Drywall		N

2022-0034-A23		
White Drywall		N
White Texture/ green paint		N

2022-0034-A24		
White Drywall		N
White Texture/ green paint		N

2022-0034-A27		
Beige Sheet Vinyl with Paper Backing		N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A19-27
MEC Project No.: 2022-0034

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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2022-0034-A45		
White Drywall		N
White Texture/Pink Paint		N

2022-0034-A44		
White Drywall		N
White Joint Compound/paper		N
White Texture/Pink Paint		N

2022-0034-A40		
Blue Ceramic Tile / Mesh		N
Gray Grout		N

2022-0034-A36		
Blue Floor Tile		N
Yellow Mastic		N

2022-0034-A29,30		
White Caulking		N
White Texture/green paint		N

2022-0034-A43		
White Drywall		N
White Texture / Pink Paint		N

2022-0034-A31,32,33		
White Drywall		N
White texture/paint		N

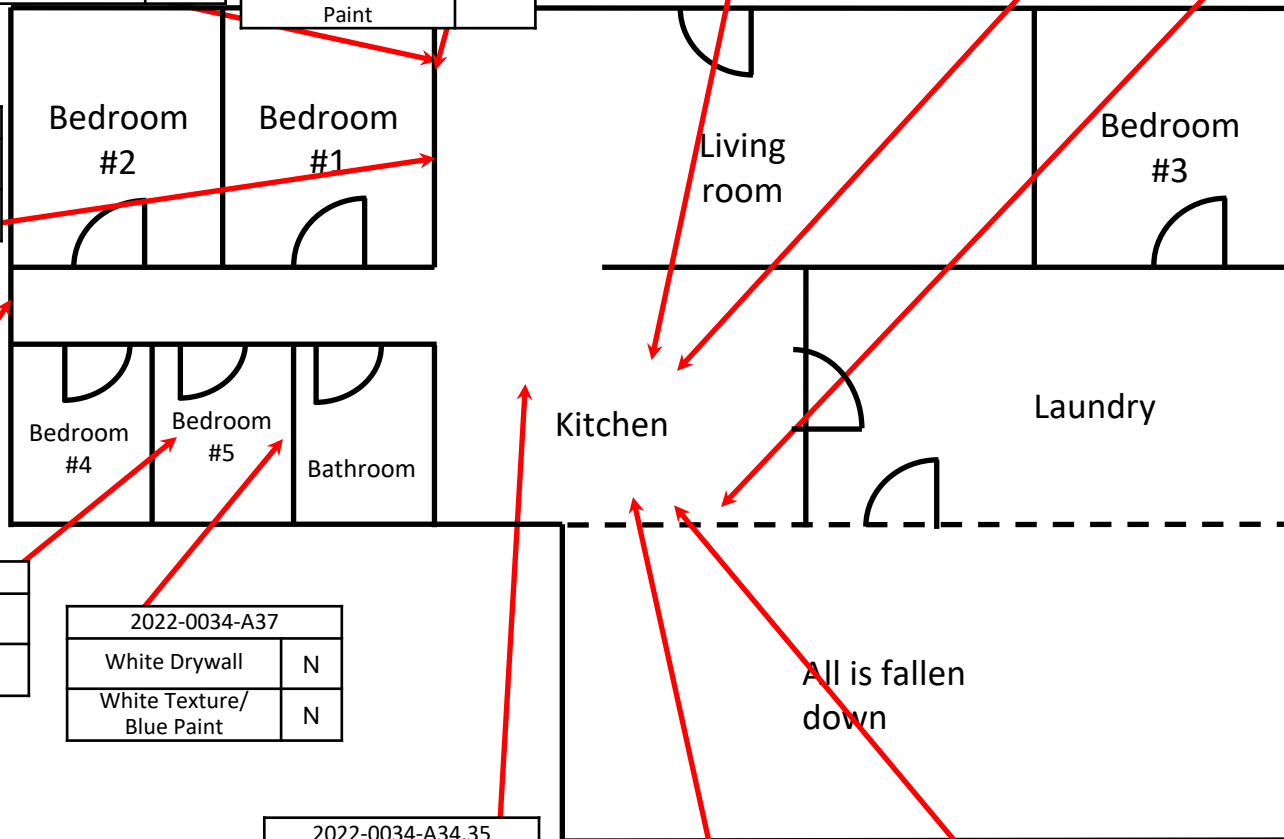
2022-0034-A38,39		
White Drywall		N
White Texture/Blue Paint		N

2022-0034-A37		
White Drywall		N
White Texture/Blue Paint		N

2022-0034-A34,35		
Blue Floor Tile		N
Yellow Mastic		N

2022-0034-A28		
White Caulking		N

2022-0034-A41,42		
Blue Ceramic Tile / Mesh		N
Gray Grout		N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

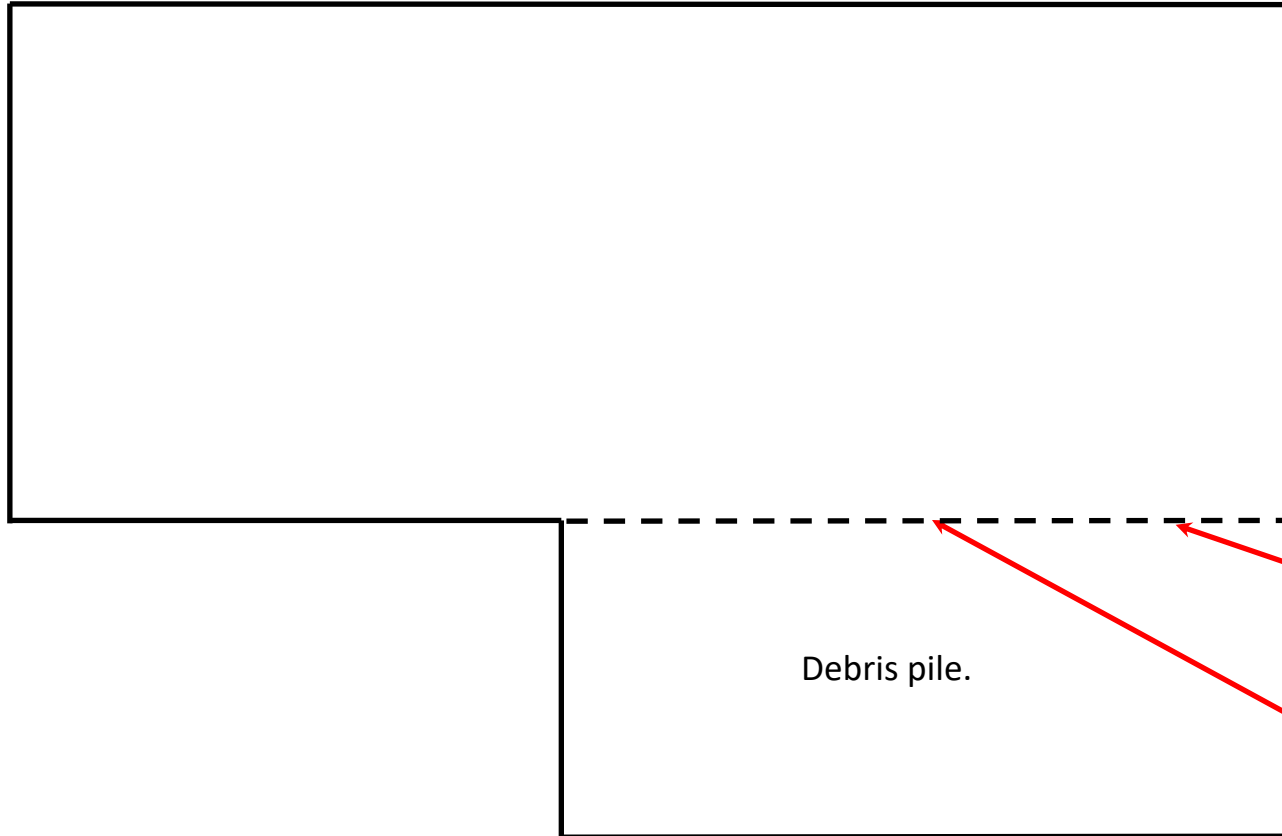
Sketch Not to Scale

Asbestos Sample Location Plan
Samples A28-45
MEC Project No.: 2022-0034

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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2022-0034-L01	
Tan paint on wood wall	N

2022-0034-AL02	
Sand paint on wood wall	N

2022-0034-L03	
Brown paint on wood wall	N

2022-0034-L04	
Red paint on wood wall	N

Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

*** - Lead-based**

Sketch Not to Scale

Lead Sample Location Plan
Samples L01-04
MEC Project No.: 2022-0034

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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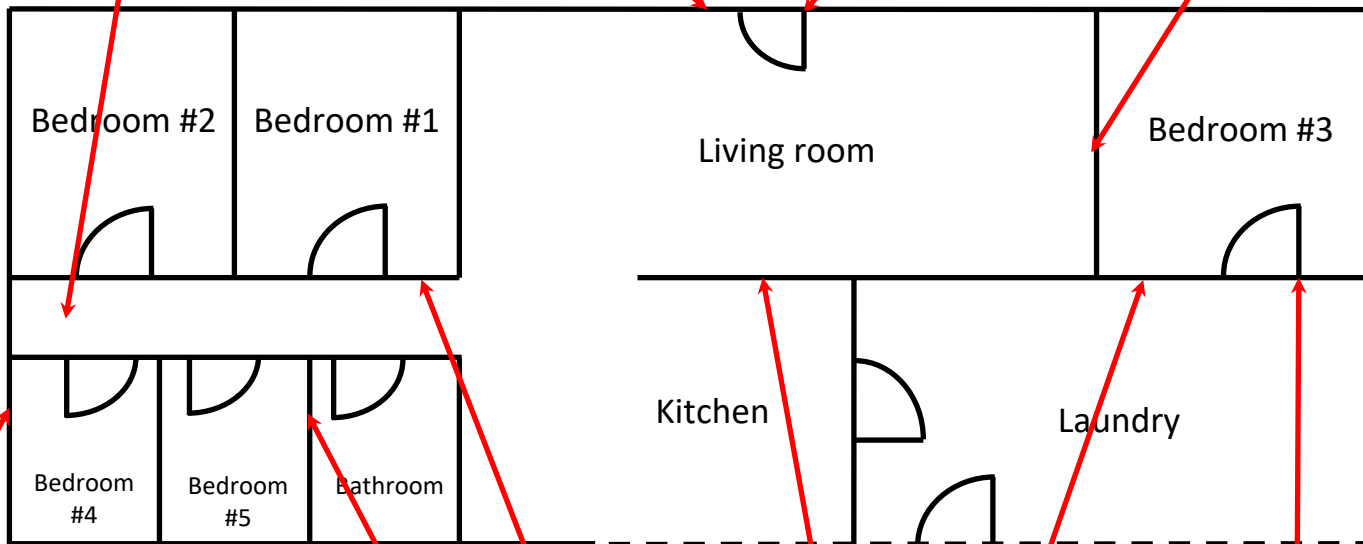


2022-0034-L07		
White paint on textured ceiling		N

2022-0034-L06		
Light gray paint on drywall wall		N

2022-0034-L05		
Sand paint on wood door frame		N

2022-0034-L11		
Red paint on drywall wall		N



2022-0034-L15		
Light blue paint on drywall wall		N

2022-0034-L14		
Baby blue paint on drywall wall		N

2022-0034-L08		
White paint on drywall walls		N

2022-0034-L09		
White paint on wood door frame		N

2022-0034-L12		
Green paint on drywall wall		N

2022-0034-L13		
Pink paint on drywall wall		N

2022-0034-L10		
Green paint on drywall wall		N

Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

*** - Lead-based**

Sketch Not to Scale

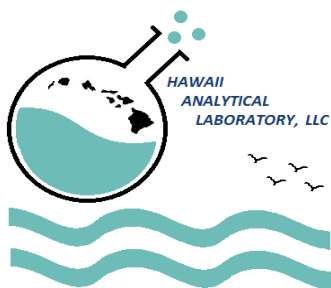
Lead Sample Location Plan
Samples L05-15
MEC Project No.: 2022-0034

SITE LOCATION:
162-A Kauhane Avenue Lot No. 176D, TMK (3)
2-1-022:097



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Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Tuesday, March 1, 2022

Mr. Mark Muranaka
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Honolulu HI 96817

Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213398	2022-0034-A01 Solar Panel Exterior <u>Layer</u> Silver wrap / yellow foam insulation Comments		NONE DETECTED		Cellulose (undulose)	20 Foil + foam	2/25/2022
202213399	2022-0034-A02 Solar Panel Exterior <u>Layer</u> Silver wrap / yellow foam insulation Comments		NONE DETECTED		Cellulose (undulose)	20 Foil + foam	2/25/2022
202213400	2022-0034-A03 Solar Panel Exterior <u>Layer</u> Silver wrap / yellow foam insulation Comments		NONE DETECTED		Cellulose (undulose)	20 Foil + foam	2/25/2022
202213401	2022-0034-A04 Copper Pipe <u>Layer</u> Black foam insulation Comments		NONE DETECTED		None detected	Foam	2/25/2022
202213402	2022-0034-A05 Copper Pipe <u>Layer</u> Black foam insulation Comments		NONE DETECTED		None detected	Foam	2/25/2022
202213403	2022-0034-A06 Copper Pipe <u>Layer</u> Black foam insulation Comments		NONE DETECTED		None detected	Foam	2/25/2022

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213404	2022-0034-A07 Window Frame		NONE DETECTED		None detected		Calcite + binder	2/25/2022
<u>Layer</u>	<u>Off-white caulk</u>							
Comments								
202213405	2022-0034-A08 Window Frame		NONE DETECTED		None detected		Calcite + binder	2/25/2022
<u>Layer</u>	<u>Off-white caulk</u>							
Comments								
202213406	2022-0034-A09 Window Frame		NONE DETECTED		None detected		Calcite + binder	2/25/2022
<u>Layer</u>	<u>Off-white caulk</u>							
Comments								
202213407	2022-0034-A10 Concrete Foundation Exterior		NONE DETECTED		None detected		Calcite + quartz	2/25/2022
<u>Layer</u>	<u>Gray concrete</u>							
Comments								
202213408	2022-0034-A11 Concrete Foundation Exterior		NONE DETECTED		None detected		Calcite + quartz	2/25/2022
<u>Layer</u>	<u>Gray concrete</u>							
Comments								
202213409	2022-0034-A12 Concrete Foundation Exterior		NONE DETECTED		None detected		Calcite + quartz	2/25/2022
<u>Layer</u>	<u>Gray concrete</u>							
Comments								
202213410	2022-0034-A13 Drywall Ceiling Living Room Interior		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213410	2022-0034-A13 Drywall Ceiling Living Room Interior		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>							
Comments								

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213411	2022-0034-A14 Drywall Ceiling Living Room Interior		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213411	2022-0034-A14 Drywall Ceiling Living Room Interior		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / white paint</u>						
	Comments						
202213412	2022-0034-A15 Drywall Ceiling Living Room Interior		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213412	2022-0034-A15 Drywall Ceiling Living Room Interior		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / white paint</u>						
	Comments						
202213413	2022-0034-A16 Drywall Wall Living Room Hallway Interior		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213413	2022-0034-A16 Drywall Wall Living Room Hallway Interior		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / green paint</u>						
	Comments						
202213414	2022-0034-A17 Drywall Wall Living Room Hallway Interior		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213414	2022-0034-A17 Drywall Wall Living Room Hallway Interior		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / green paint</u>						
	Comments						

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213415	2022-0034-A18 Drywall Wall Living Room Hallway Interior		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213415	2022-0034-A18 Drywall Wall Living Room Hallway Interior		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / green paint</u>							
	Comments							
202213416	2022-0034-A19 Drywall Walls Interior Livingroom Hallway		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213417	2022-0034-A20 Drywall Walls Interior Livingroom Hallway		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213417	2022-0034-A20 Drywall Walls Interior Livingroom Hallway		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / purple paint</u>							
	Comments							
202213418	2022-0034-A21 Drywall Walls Interior Livingroom Hallway		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213418	2022-0034-A21 Drywall Walls Interior Livingroom Hallway		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / purple paint</u>							
	Comments							
202213419	2022-0034-A22 Drywall Walls Interior Bathroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213420	2022-0034-A23 Drywall Walls Interior Bathroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> White drywall							
	Comments							
202213420	2022-0034-A23 Drywall Walls Interior Bathroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> White texture / green paint							
	Comments							
202213421	2022-0034-A24 Drywall Walls Interior Bathroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> White drywall							
	Comments							
202213421	2022-0034-A24 Drywall Walls Interior Bathroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> White texture / green paint							
	Comments							
202213422	2022-0034-A25 Tile Interior Bathroom		NONE DETECTED		Cellulose (undulose)	35	Vinyl + other	2/25/2022
	<u>Layer</u> Beige sheet vinyl w/ paper backing							
	Comments							
202213423	2022-0034-A26 Tile Interior Bathroom		NONE DETECTED		Cellulose (undulose)	35	Vinyl + other	2/25/2022
	<u>Layer</u> Beige sheet vinyl w/ paper backing							
	Comments							
202213424	2022-0034-A27 Tile Interior Bathroom		NONE DETECTED		Cellulose (undulose)	35	Vinyl + other	2/25/2022
	<u>Layer</u> Beige sheet vinyl w/ paper backing							
	Comments							
202213425	2022-0034-A28 Caulking on Cabinets Interior Kitchen		NONE DETECTED		None detected		Calcite + binder	2/25/2022
	<u>Layer</u> White caulk							
	Comments							

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213426	2022-0034-A29 Caulking on Cabinets Interior Kitchen		NONE DETECTED		None detected	Calcite + binder	2/25/2022
<u>Layer</u>	<u>White caulk</u>						
Comments							
202213427	2022-0034-A30 Caulking on Cabinets Interior Kitchen		NONE DETECTED		None detected	Calcite + binder	2/25/2022
<u>Layer</u>	<u>White caulk</u>						
Comments							
202213428	2022-0034-A31 Drywall Walls Interior Hallway		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213428	2022-0034-A31 Drywall Walls Interior Hallway		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>						
Comments							
202213429	2022-0034-A32 Drywall Walls Interior Hallway		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213429	2022-0034-A32 Drywall Walls Interior Hallway		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>						
Comments							
202213430	2022-0034-A33 Drywall Walls Interior Hallway		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213431	2022-0034-A34 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + vinyl	2/25/2022
<u>Layer</u>	<u>Blue floor tile</u>						
Comments							

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Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213431	2022-0034-A34 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + binder	2/25/2022
<u>Layer</u>	<u>Yellow mastic</u>						
Comments							
202213432	2022-0034-A35 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + vinyl	2/25/2022
<u>Layer</u>	<u>Blue floor tile</u>						
Comments							
202213432	2022-0034-A35 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + binder	2/25/2022
<u>Layer</u>	<u>Yellow mastic</u>						
Comments							
202213433	2022-0034-A36 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + vinyl	2/25/2022
<u>Layer</u>	<u>Blue floor tile</u>						
Comments							
202213433	2022-0034-A36 Tile Interior Kitchen		NONE DETECTED		None detected	Calcite + binder	2/25/2022
<u>Layer</u>	<u>Yellow mastic</u>						
Comments							
202213434	2022-0034-A37 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							
202213434	2022-0034-A37 Drywall Ceiling Interior Bedroom		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / blue paint</u>						
Comments							
202213435	2022-0034-A38 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15 Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>						
Comments							

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Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213435	2022-0034-A38 Drywall Ceiling Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> White texture / blue paint							
	Comments							
202213436	2022-0034-A39 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> White drywall							
	Comments							
202213436	2022-0034-A39 Drywall Ceiling Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> White texture / blue paint							
	Comments							
202213437	2022-0034-A40 Tile Interior Countertops		NONE DETECTED		Wollastonite (+/- optical sign)	10	Ceramic + quartz	2/25/2022
	<u>Layer</u> Blue ceramic tile / mesh							
	Comments							
202213437	2022-0034-A40 Tile Interior Countertops		NONE DETECTED		None detected		Quartz + calcite	2/25/2022
	<u>Layer</u> Gray grout							
	Comments							
202213438	2022-0034-A41 Tile Interior Countertops		NONE DETECTED		Wollastonite (+/- optical sign)	10	Ceramic + quartz	2/25/2022
	<u>Layer</u> Blue ceramic tile / mesh							
	Comments							
202213438	2022-0034-A41 Tile Interior Countertops		NONE DETECTED		None detected		Quartz + calcite	2/25/2022
	<u>Layer</u> Gray grout							
	Comments							
202213439	2022-0034-A42 Tile Interior Countertops		NONE DETECTED		Wollastonite (+/- optical sign)	10	Ceramic + quartz	2/25/2022
	<u>Layer</u> Blue ceramic tile / mesh							
	Comments							

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213439	2022-0034-A42 Tile Interior Countertops		NONE DETECTED		None detected		Quartz + calcite	2/25/2022
	<u>Layer</u> <u>Gray grout</u>							
	Comments							
202213440	2022-0034-A43 Drywall Wall Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213440	2022-0034-A43 Drywall Wall Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / pink paint</u>							
	Comments							
202213441	2022-0034-A44 Drywall Wall Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213441	2022-0034-A44 Drywall Wall Interior Bedroom		NONE DETECTED		Cellulose (undulose)	20	Calcite + quartz	2/25/2022
	<u>Layer</u> <u>White joint compound / paper</u>							
	Comments							
202213441	2022-0034-A44 Drywall Wall Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / pink paint</u>							
	Comments							
202213442	2022-0034-A45 Drywall Wall Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213442	2022-0034-A45 Drywall Wall Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White texture / pink paint</u>							
	Comments							

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Lab Job No: 202201616
Date Submitted: 2/20/2022
Your Project: 2022-0034, 162-A Kauhane Avenue, 2/15/22

General Comments

The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Eva Skogsberg
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201616

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A01	Solar Panel Exterior	2/15/22	Bulk		PLM		202213398
2022-0034-A02	Solar Panel Exterior	2/15/22	Bulk		PLM		202213399
2022-0034-A03	Solar Panel Exterior	2/15/22	Bulk		PLM		202213400
2022-0034-A04	Copper Pipe	2/15/22	Bulk		PLM		202213401
2022-0034-A05	Copper Pipe	2/15/22	Bulk		PLM		202213402
2022-0034-A06	Copper Pipe	2/15/22	Bulk		PLM		202213403
2022-0034-A07	Window Frame	2/15/22	Bulk		PLM		202213404
2022-0034-A08	Window Frame	2/15/22	Bulk		PLM		202213405
2022-0034-A09	Window Frame	2/15/22	Bulk		PLM		202213406
2022-0034-A10	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213407
2022-0034-A11	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213408
2022-0034-A12	Concrete Foundation Exterior	2/15/22	Bulk		PLM		202213409

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173-.....



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☐ New Client?

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Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201616

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A13	Drywall Ceiling Living Room Interior	2/15/22	Bulk		PLM		202213410
2022-0034-A14	Drywall Ceiling Living Room Interior	2/15/22	Bulk		PLM		202213411
2022-0034-A15	Drywall Ceiling Living Room Interior	2/15/22	Bulk		PLM		202213412
2022-0034-A16	Drywall Wall Living Room Hallway Interior	2/15/22	Bulk		PLM		202213413
2022-0034-A17	Drywall Wall Living Room Hallway Interior	2/15/22	Bulk		PLM		202213414
2022-0034-A18	Drywall Wall Living Room Hallway Interior	2/15/22	Bulk		PLM		202213415
2022-0034-A19	Drywall Walls Interior Livingroom Hallway	2/15/22	Bulk		PLM		202213416
2022-0034-A20	Drywall Walls Interior Livingroom Hallway	2/15/22	Bulk		PLM		202213417
2022-0034-A21	Drywall Walls Interior Livingroom Hallway	2/15/22	Bulk		PLM		202213418
2022-0034-A22	Drywall Walls Interior Bathroom	2/15/22	Bulk		PLM		202213419
2022-0034-A23	Drywall Walls Interior Bathroom	2/15/22	Bulk		PLM		202213420
2022-0034-A24	Drywall Walls Interior Bathroom	2/15/22	Bulk		PLM		202213421

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

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*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☒ via drop box

☐ via FedEx

☐ via pick up

awb#: 173

Page: 5 of 5



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Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201616

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A25	Tile Interior Bathroom	2/15/22	Bulk		PLM		202213422
2022-0034-A26	Tile Interior Bathroom	2/15/22	Bulk		PLM		202213423
2022-0034-A27	Tile Interior Bathroom	2/15/22	Bulk		PLM		202213424
2022-0034-A28	Caulking on Cabinets Interior Kitchen	2/15/22	Bulk		PLM		202213425
2022-0034-A29	Caulking on Cabinets Interior Kitchen	2/15/22	Bulk		PLM		202213426
2022-0034-A30	Caulking on Cabinets Interior Kitchen	2/15/22	Bulk		PLM		202213427
2022-0034-A31	Drywall Walls Interior Hallway	2/15/22	Bulk		PLM		202213428
2022-0034-A32	Drywall Walls Interior Hallway	2/15/22	Bulk		PLM		202213429
2022-0034-A33	Drywall Walls Interior Hallway	2/15/22	Bulk		PLM		202213430
2022-0034-A34	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213431
2022-0034-A35	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213432
2022-0034-A36	Tile Interior Kitchen	2/15/22	Bulk		PLM		202213433

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

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☐ via pick up

awb#: 173-.....

Page: 5 of 5



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201616

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A37	Drywall Ceiling Interior Bedroom	2/15/22	Bulk		PLM		202213434
2022-0034-A38	Drywall Ceiling Interior Bedroom	2/15/22	Bulk		PLM		202213435
2022-0034-A39	Drywall Ceiling Interior Bedroom	2/15/22	Bulk		PLM		202213436
2022-0034-A40	Tile Interior Countertops	2/15/22	Bulk		PLM		202213437
2022-0034-A41	Tile Interior Countertops	2/15/22	Bulk		PLM		202213438
2022-0034-A42	Tile Interior Countertops	2/15/22	Bulk		PLM		202213439
2022-0034-A43	Drywall Wall Interior Bedroom	2/15/22	Bulk		PLM		202213440
2022-0034-A44	Drywall Wall Interior Bedroom	2/15/22	Bulk		PLM		202213441
2022-0034-A45	Drywall Wall Interior Bedroom	2/15/22	Bulk		PLM		202213442

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22 10:15am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

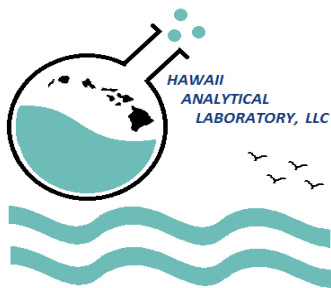
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awb#: 173-...



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201626
Date Submitted: 2/22/2022
Your Project: 2022-0034, 162-A Kauhane Ave., 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213608	2022-0034-L01 Outside South East Wall	< 39	mg/kg	2/24/2022
Comments				
202213609	2022-0034-L02 Outside Corner	< 39	mg/kg	2/24/2022
Comments				
202213610	2022-0034-L03 Outside SW	< 39	mg/kg	2/24/2022
Comments				
202213611	2022-0034-L04 Outside SW	< 39	mg/kg	2/24/2022
Comments				
202213612	2022-0034-L05 Front Door Frame	< 39	mg/kg	2/24/2022
Comments				
202213613	2022-0034-L06 Textured Dry Wall	< 39	mg/kg	2/24/2022
Comments				
202213614	2022-0034-L07 Textured Ceiling	< 39	mg/kg	2/24/2022
Comments				
202213615	2022-0034-L08 White Walls	< 39	mg/kg	2/24/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201626
Date Submitted: 2/22/2022
Your Project: 2022-0034, 162-A Kauhane Ave., 2/15/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213616	2022-0034-L09 Green Door Frame	< 39	mg/kg	2/24/2022
Comments				
202213617	2022-0034-L10 Red Drywall	< 39	mg/kg	2/24/2022
Comments				
202213618	2022-0034-L11 Bright Green Drywall	< 39	mg/kg	2/24/2022
Comments				
202213619	2022-0034-L12 Pink Drywall	< 39	mg/kg	2/24/2022
Comments				
202213619.1	2022-0034-L13 Pink Drywall Wall	< 39	mg/kg	2/24/2022
Comments				
202213620	2022-0034-L14 Baby Blue Drywall	< 39	mg/kg	2/24/2022
Comments				
202213621	2022-0034-L15 Light Blue Drywall	< 39	mg/kg	2/24/2022
Comments				

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201626
Date Submitted: 2/22/2022
Your Project: 2022-0034, 162-A Kauhane Ave., 2/15/22

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
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Honolulu, HI 96819
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Email / Fax : mark.m@muranakaenvironmental.com

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Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Leah Barkai PB-1269

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201626

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L01	outside south east wall	2/15/22	Bulk		Lead		202213608
2022-0034-L02	Outside Corner	2/15/22	Bulk		Lead		202213609
2022-0034-L03	Outside SW	2/15/22	Bulk		Lead		202213610
2022-0034-L04	Outside SW	2/15/22	Bulk		Lead		202213611
2022-0034-L05	Front Door Frame	2/15/22	Bulk		Lead		202213612
2022-0034-L06	Textured Dry Wall	2/15/22	Bulk		Lead		202213613
2022-0034-L07	Textured Ceiling	2/15/22	Bulk		Lead		202213614
2022-0034-L08	White Walls	2/15/22	Bulk		Lead		202213615
2022-0034-L09	Green Door Frame	2/15/22	Bulk		Lead		202213616
2022-0034-L10	Red Drywall	2/15/22	Bulk		Lead		202213617
2022-0034-L11	Bright Green Drywall	2/15/22	Bulk		Lead		202213618
2022-0034-L12	Pink Drywall	2/15/22	Bulk		Lead		202213619
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai <i>LB</i>		2/15/22		Eva Skogsberg <i>ES</i>		2/20/22 11:10am	

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC ☐ via USPS ☒ via drop box ☐ via FedEx ☐ via pick up

awb#: 173

Page: 5 of 5

☐ New Client?

Report To*	:	Mark Muranaka/Kyle Tanaka
Company	:	Muranaka Environmental Consultants, Inc.
Address*	:	2850 Paa St., Suite 100B
	:	Honolulu, HI 96819
Phone / Cell No.*	:	(808) 845-8822
Report results to	:	
Email / Fax	:	mark.m@muranakaenvironmental.com

Invoice To*	:	Faye Yamaguchi
Company	:	Muranaka Environmental Consultants, Inc.
Address*	:	2850 Paa St. Suite 100B
	:	Honolulu, HI 96819
Phone / Cell No.*	:	(808) 845-8822
Purchase Order No.	:	
Email Invoice To	:	fave@muranakaenvironmental.com

Need Results By*:

- | | |
|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | 5 Working Days (WD) |
| <input type="checkbox"/> | 4 WD |
| <input type="checkbox"/> | 3 WD |
| <input type="checkbox"/> | 2 WD |
| <input type="checkbox"/> | 24 hours |
| <input type="checkbox"/> | 6 hours or less |
| <input type="checkbox"/> | 4 hours or less |
| <input type="checkbox"/> | 1-2 hours |

Site/Project Name:
162-A Kauhane Avenue

Client Project No.:	2022-0034
---------------------	-----------

Verbal results?

Sampled By & Certif. # :	Leah Barkai PB-1269
--------------------------	---------------------

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

Lab Report No.:

* Added per client request - AIT, 2.22.22

☐ + stop / SAMPLE
☐ + stop / LAYER

202201626

[illegible]

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/15/22

Eva Skogsberg

2/20/22

4.05

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

awb#: 173-.....

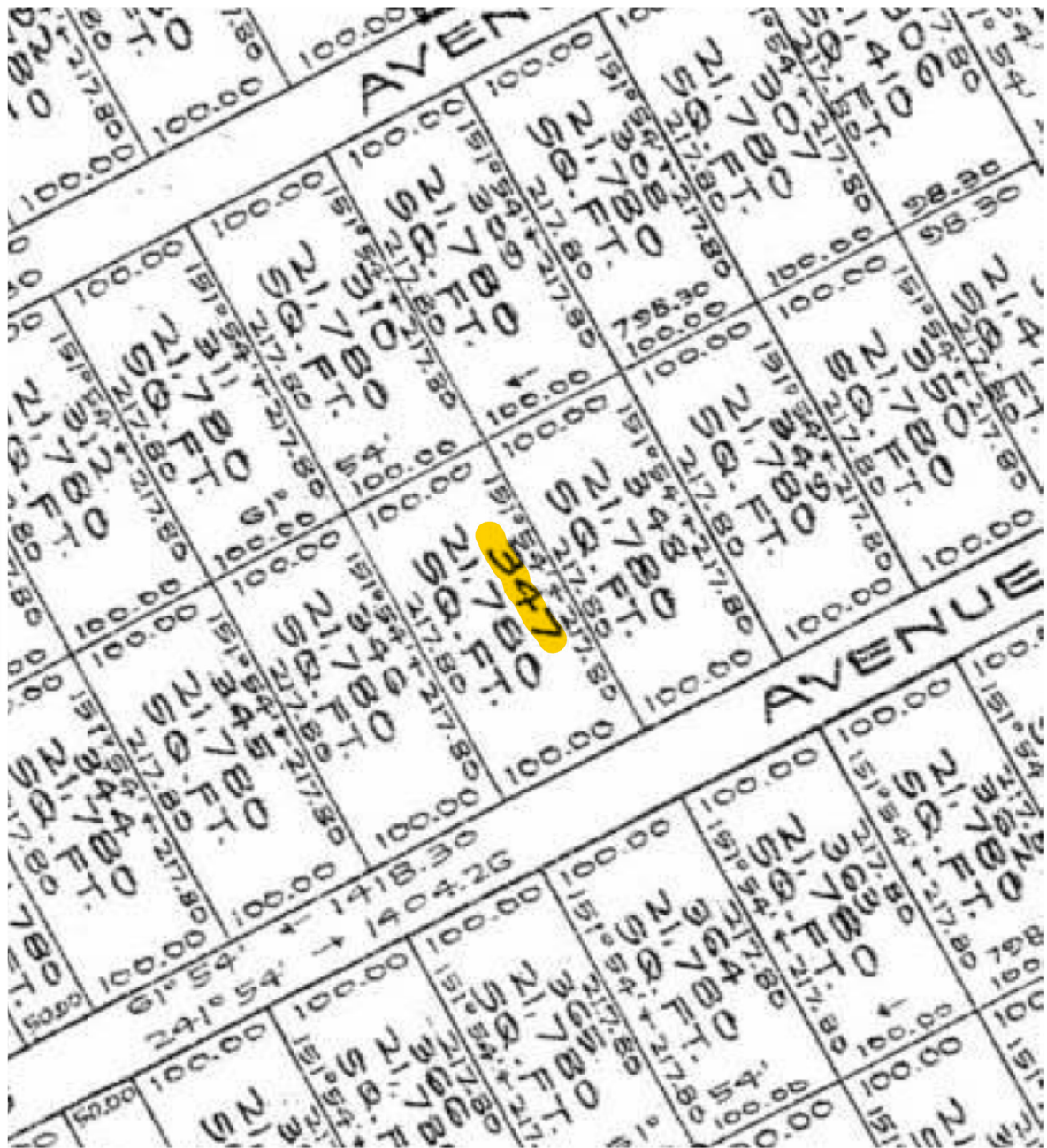
☐ via USPS

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Page: 5 of 5

TMK (3)2-1-023:009:0000
LOT NO. 347
157 Krauss Avenue
HILO, HAWAII ISLAND



MAP SHOWING LOT NO. 347
21,780 sq. ft.

Keaukaha Tract I
Waiakea, South Hilo, Hawaii

DHHL Lot Stakeout Map 10/28/85



Image capture: Sep 2011 © 2021 Google







HAZARDOUS MATERIALS SURVEY REPORT
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
Hilo, Hawai'i

Survey Conducted On:
February 16, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIKAMULO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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12.3 Arsenic Results	

Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 157 Krauss Avenue, Hilo, HI 96720 Lot No. 347, TMK (3) 2-1-023:009. The survey was conducted on February 16, 2022. Results can be found in Section 5.0.

There were asbestos-containing materials found in the carport's joint compound, kitchen floor tiles/mastic, sink undercoating, covebase, and bedroom's joint compound. See Summary of Asbestos-Containing Materials table below for materials, locations, conditions, and estimated quantities and Section 6.1 Asbestos for recommendations.

Summary of Asbestos-Containing Materials 157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009

Asbestos-Containing Materials	Location	Condition	Estimated Quantity (Affected Area)
Black sink undercoating (Photo 2)	Kitchen	Damaged	8 ft ²
Beige floor tile (Photo 3)	Kitchen	Damaged	937 ft ²
Black mastic (Photo 3)	Kitchen	Damaged	32 ft ²
White joint compound/off-white paint (Photo 4)	Carport, kitchen, bedroom	Damaged	45 ft ²

Lead-containing paint (LCP) was found on the exterior wood walls. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Lead-containing paints (LCP) were found on the exterior walls. No lead-based paints (LBP) were found on the property. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Summary of Lead-Containing Paint 157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009

Lead-Containing Paint	Location	Condition	Estimated Quantity (Affected Area)
Yellow paint on wood walls (Photo 5)	Exterior walls	Damaged	5,784 ft ²

There were no detectable levels of Arsenic in building materials found on the property.

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 157 Krauss Avenue, Hilo, HI 96720 Lot No. 347, TMK (3) 2-1-023:009. The survey was conducted on February 16, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody¹

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

4.3 Arsenic

Arsenic is commonly used in wood preservation. Common exposure pathways are through inhalation and dermal contact with wood treated with arsenic. During

the sampling, the inspector wore a half-face, dual cartridge, air-purifying respirator with P-100 filters and disposable gloves. Each sample was placed into a labeled, re-sealable plastic container. Each sample was logged onto a field data sheet with a description of the sample. Each sample was analyzed using flame atomic absorption (EPA Method 7000Bm) to determine the amount of arsenic in each sample.

5.0 Observations and Results

The property 157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009 was a one-story house in poor condition (Photo no. 1). The outside walls were discolored because of the sun, and the outside ceiling had black mold on it and was caving in. Inside the car port, the ceiling was also in poor condition with the paint peeling off. Inside the house was in poor condition as well with the kitchen counter drawers missing, holes in the walls and ceiling and some of the floor tiles were breaking and scattered on the floor. The ceiling inside also had black mold. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of twenty-six (26) suspect ACM samples were collected from the carport, exterior of the house, kitchen, hallway, bathroom, and bedroom. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Carport

- White drywall with white joint compound/white paint

Exterior of the house

- Gray caulk/paint

Kitchen

- Beige floor tile with black mastic
- Black sink undercoating
- Brown cove base with tan/brown mastic and white joint compound

Hallway

- Yellow floor tile with yellow mastic and white paint

Bathroom

- Gray ceramic tile with gray mortar and off-white grout

Bedroom

- White drywall and white joint compound and off-white paint
- White drywall with white paint

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
Collected on February 16, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A90	Carport Ceiling	White drywall ceiling	NAD	M	F	No
		White joint compound/white paint	2% Chrysotile	M	NF	Yes
2022-0034-A91	Carport Ceiling	White drywall ceiling	NAD	M	F	No
		White joint compound/white paint	2% Chrysotile	M	NF	Yes
2022-0034-A92	Carport Ceiling	White drywall ceiling	NAD	M	F	No
		White joint compound/white paint	2% Chrysotile	M	NF	Yes
2022-0034-A93	Bedroom #3 Wall	Gray caulking/paint	NAD	M	NF	No
2022-0034-A94	Bedroom #3 Wall	Gray caulking/paint	NAD	M	NF	No
2022-0034-A95	Bedroom #3 Wall	Gray caulking/paint	NAD	M	NF	No
2022-0034-A96	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Black mastic	8% Chrysotile	M	NF	Yes
2022-0034-A97	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Black mastic	8% Chrysotile	M	NF	Yes
2022-0034-A98	Kitchen Floor	Beige floor tile	2% Chrysotile	M	NF	Yes
		Black mastic	5% Chrysotile	M	NF	Yes
2022-0034-A99	Hallway Floor	Yellow floor tile	NAD	M	NF	No
		Yellow mastic/white paint	NAD	M	NF	No
2022-0034-A100	Hallway Floor	Yellow floor tile	NAD	M	NF	No
		Yellow mastic/white paint	NAD	M	NF	No
2022-0034-A101	Hallway Floor	Yellow floor tile	NAD	M	NF	No
		Yellow mastic/white paint	NAD	M	NF	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (continued)
Asbestos Sampling Results
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
Collected on February 16, 2022

2022-0034-A102	Bathroom #2 Floor	Gray ceramic tile	NAD	M	NF	No
		Gray mortar	NAD	M	NF	No
2022-0034-A103	Bathroom #2 Floor	Gray ceramic tile	NAD	M	NF	No
		Gray mortar	NAD	M	NF	No
2022-0034-A104	Bathroom #2 Floor	Gray ceramic tile	NAD	M	NF	No
		Gray mortar	NAD	M	NF	No
		Off-white grout	NAD	M	NF	No
2022-0034-A105	Kitchen Sink Undercoating	Black sink undercoating	4% Chrysotile	TSI	NF	Yes
2022-0034-A106	Kitchen Sink Undercoating	Black sink undercoating	4% Chrysotile	TSI	NF	Yes
2022-0034-A107	Kitchen Sink Undercoating	Black sink undercoating	4% Chrysotile	TSI	NF	Yes
2022-0034-A108	Kitchen Cove base	Brown cove base	NAD	M	NF	No
		Tan/brown mastic	NAD	M	NF	No
		White joint compound	2% Chrysotile	M	NF	Yes
2022-0034-A109	Kitchen Cove base	Brown cove base	NAD	M	NF	No
		Tan/brown mastic	NAD	M	NF	No
		White joint compound	<1% Chrysotile	M	NF	Yes
2022-0034-A110	Kitchen Cove base	Brown cove base	NAD	M	NF	No
		Tan/brown mastic	NAD	M	NF	No
		White joint compound	<1% Chrysotile	M	NF	Yes
2022-0034-A111	Bedroom #2 Wall	White drywall	NAD	M	F	No
		White joint compound/off-white paint	<1% chrysotile	M	NF	Yes
2022-0034-A112	Bedroom #2 Wall	White drywall/off-white paint	NAD	M	F	No
2022-0034-A113	Bedroom #2 Wall	White drywall/off-white paint	NAD	M	F	No
2022-0034-A114	Bedroom #3 Wall	White drywall/white paint	NAD	M	F	No
2022-0034-A115	Bedroom #3 Ceiling	White drywall/white paint	NAD	M	F	No
2022-0034-A116	Bedroom #3 Ceiling	White drywall/ white paint	NAD	M	F	No

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of nine (9) XRF readings and paint chip samples were collected from the carport, exterior walls, entry doorway, and interior. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Carport

- White paint on drywall ceiling

Exterior walls

- Yellow paint on wood

Entry doorway

- Dark gray paint on wood door
- Dark gray paint on wood door frame

Interior

- Sand paint on drywall walls
- White paint on drywall ceiling
- White paint on drywall door frame
- White paint on drywall window frame
- White paint on drywall door

Table 2
XRF and Paint Chip Sampling Results
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
Collected on February 16, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
38	Carport ceiling	White	Ceiling	Drywall	0.00	2022-0034-L38	< 40	No	No
39	Outside walls	Yellow	Wall	Wood	0.00	2022-0034-L39	40	Yes	No
40	Entry door	Dark gray	Door	Wood	0.00	2022-0034-L40	< 40	No	No
41	Entry door frame	Dark gray	Door frame	Wood	0.00	2022-0034-L41	< 40	No	No
42	Walls	Sand	Wall	Drywall	0.00	2022-0034-L42	< 40	No	No
43	Ceiling	White	Ceiling	Drywall	0.00	2022-0034-L43	< 40	No	No
44	Inside door frame	White	Door Frame	Drywall	0.00	2022-0034-L44	< 40	No	No
45	Inside window frame	White	Window	Drywall	0.00	2022-0034-L45	< 40	No	No
46	Inside door frame	White	Door	Drywall	0.00	2022-0034-L46	< 40	No	No
47	Shed	Brown	Wall	Fiber board	0.00	2022-0034-L47	< 40	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

5.3 Arsenic

A total of one (1) fiber board sample was collected from the shed wall. The sample was recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for total arsenic analysis.

Building material suspected of containing arsenic and sampled included:

Shed wall

- Brown paint on fiber board

Table 3 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.3 for the Laboratory Data and Chain-of-Custody Documentation.

Table 3
Arsenic-Containing Building Material
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
Collected on February 16, 2022

Sample Number	Material	Location	Results ¹	Detected? ²
2022-0034-L47	Brown painted fiber board	Shed wall	< 41	No

¹ units of mg/kg

² using EPA method 3051m/7000bm

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average. Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 µg/m³).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

6.3 Arsenic

When arsenic containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, State of Hawaii Department of Health, and HIOSH State of Hawaii Department of Labor, Division of Occupational Safety and Health regulations is required.

7.0 Limitations

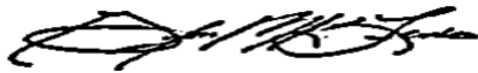
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
157 Krauss Avenue Lot No. 347, TMK (3) 2-1-023:009
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2: Kitchen

Asbestos-containing black sink undercoating.



Photo No. 3: Kitchen

Asbestos-containing beige floor tile with black mastic underneath.

Brown cove base and tan/brown mastic was not asbestos-containing.

Asbestos-containing white joint compound.



Photo No. 4: Carport

Asbestos-containing white joint compound/off-white paint.

White drywall did not contain asbestos.

White paint on drywall ceiling did not contain lead.



Photo No. 5: Exterior walls

Lead-containing yellow paint on wood walls.

Section 11.0
Homogeneous Area
and
Sample Location Plan

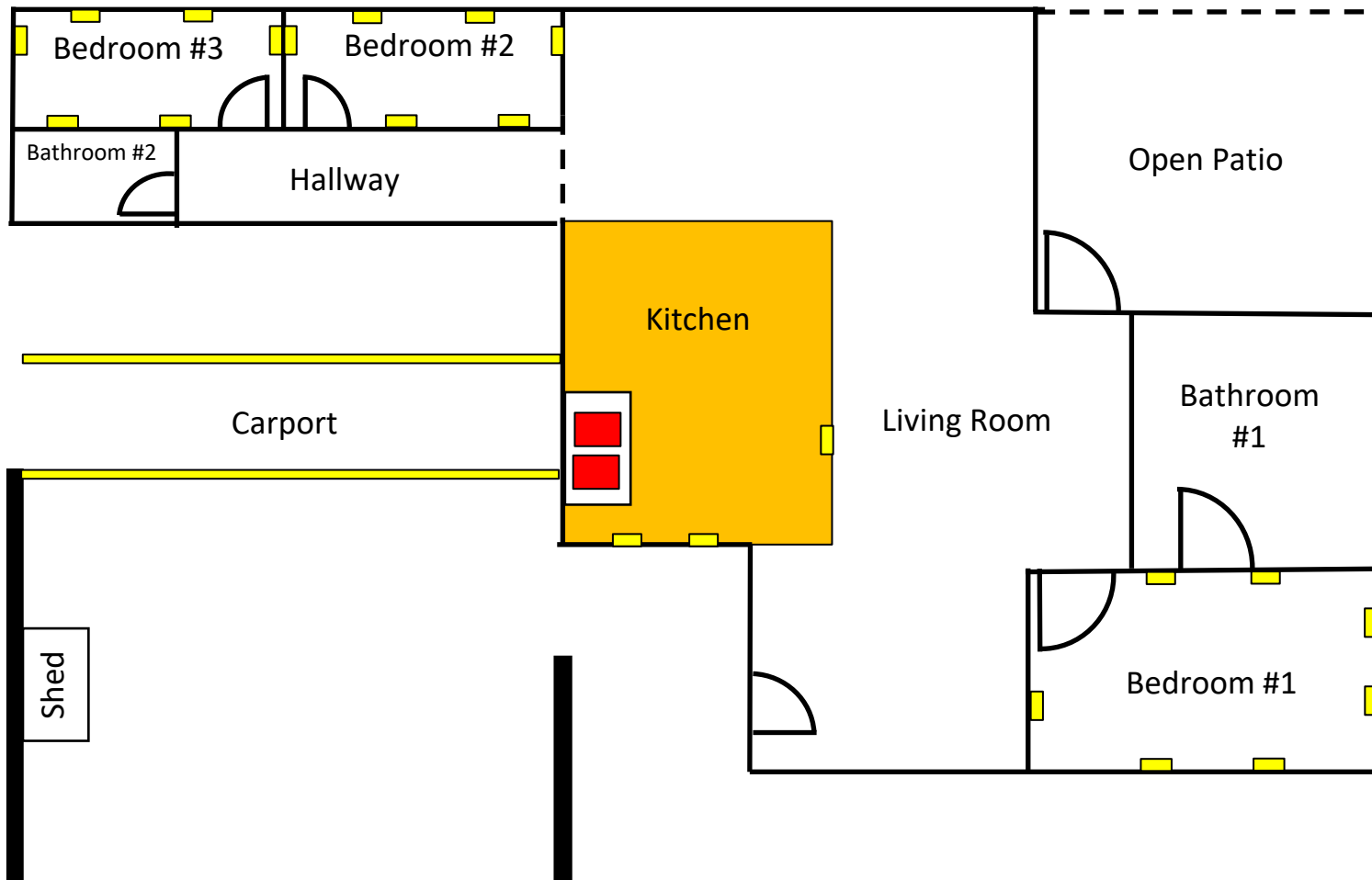


Site Location Map
MEC Project No.: 2022-0034




SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
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Legend:

-  Asbestos-containing black sink undercoating
-  Asbestos-containing beige floor tile with black mastic underneath
-  Asbestos-containing white joint compound/off-white paint

Sketch Not to Scale

Asbestos Homogeneous Area Plan
MEC Project No.: 2022-0034

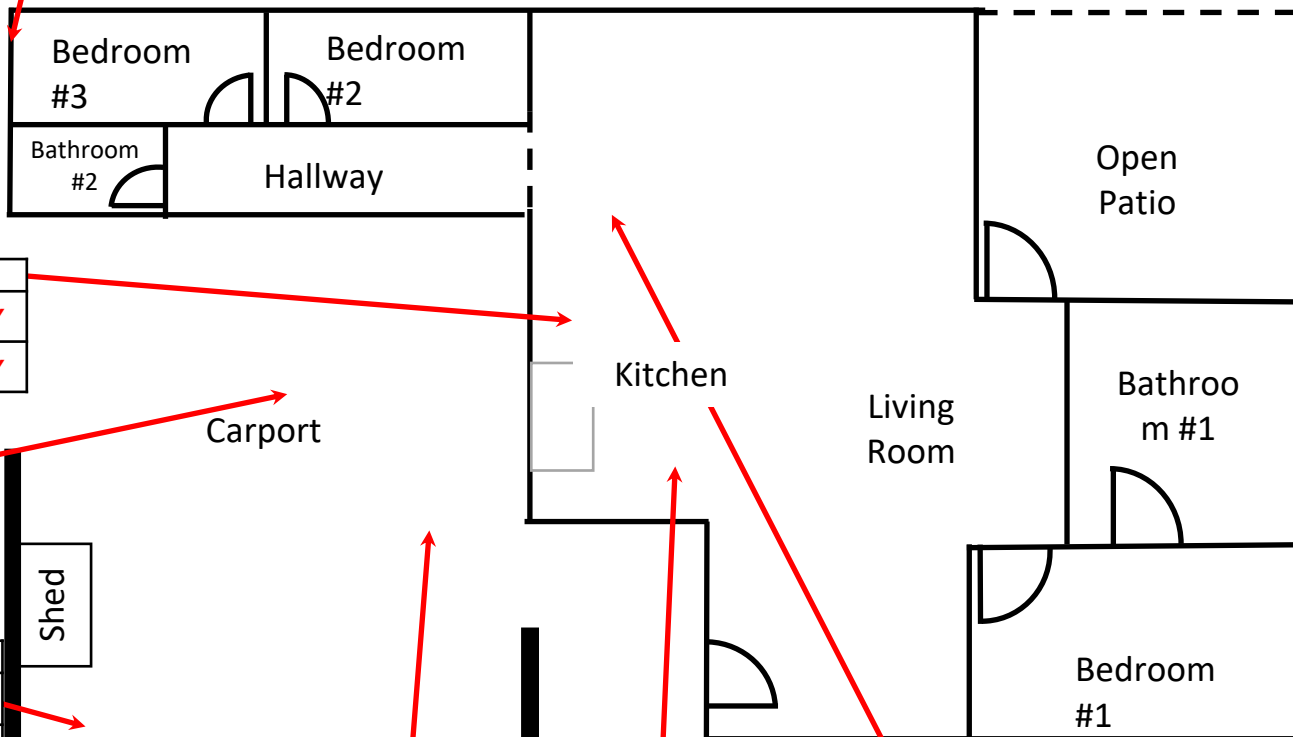
SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



Muranaka Environmental Consultants, Inc.
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2022-0034-A93,94,95		
Gray	caulking/paint	N



2022-0034-A97		
Beige Floor Tile		Y
Black Mastic		Y

2022-0034-A90		
White Drywall		N
White Joint Compound		Y

2022-0034-A92		
White Drywall		N
White Joint Compound		Y

2022-0034-A91		
White Drywall		N
White Joint Compound		Y

2022-0034-A98		
Beige Floor Tile		Y
Black Mastic		Y

2022-0034-A96		
Beige Floor Tile		Y
Black Mastic		Y

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A90-98
MEC Project No.: 2022-0034

SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



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2022-0034-A102,103	
Gray ceramic tile	N
Gray mortar	N

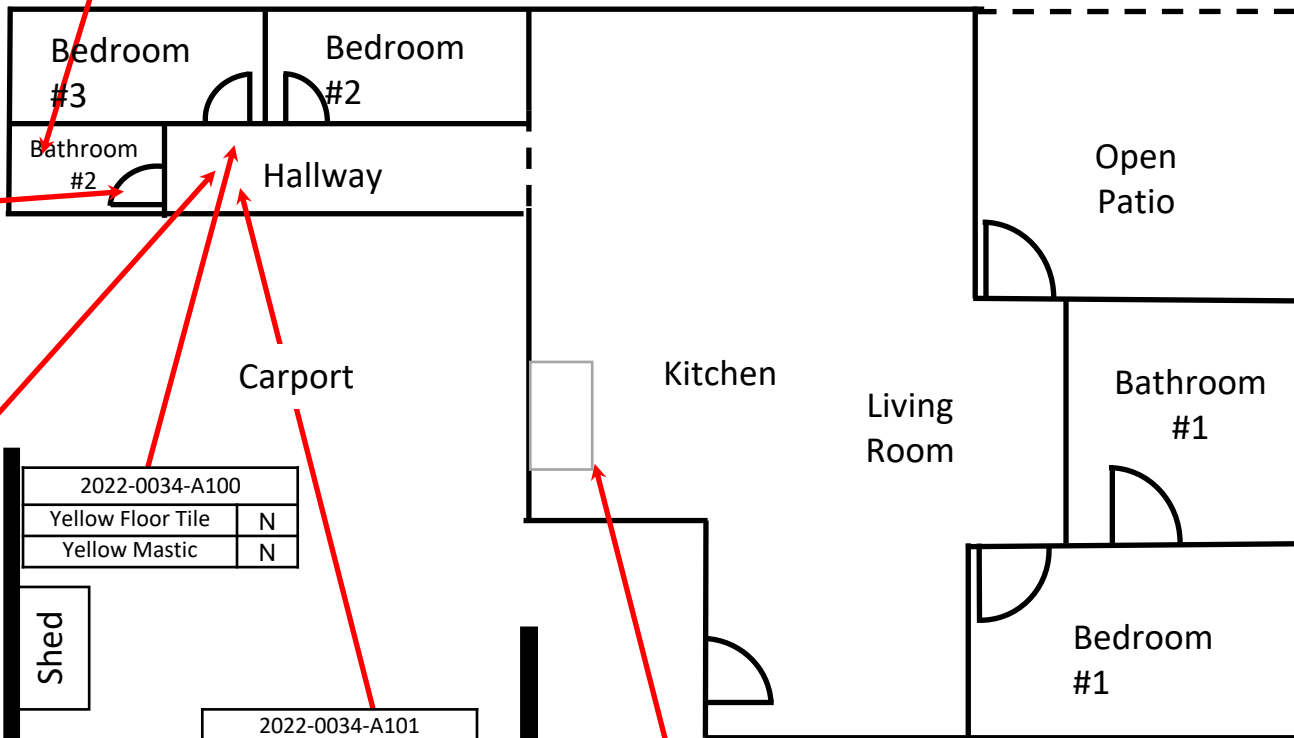
2022-0034-A104	
Gray ceramic tile	N
Gray mortar	N
Off-white grout	N

2022-0034-A99	
Yellow Floor Tile	N
Yellow Mastic	N

2022-0034-A100	
Yellow Floor Tile	N
Yellow Mastic	N

2022-0034-A101	
Yellow Floor Tile	N
Yellow Mastic	N

2022-0034-A105,106,107	
Black Sink Undercoating	Y



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A99-107
MEC Project No.: 2022-0034

SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



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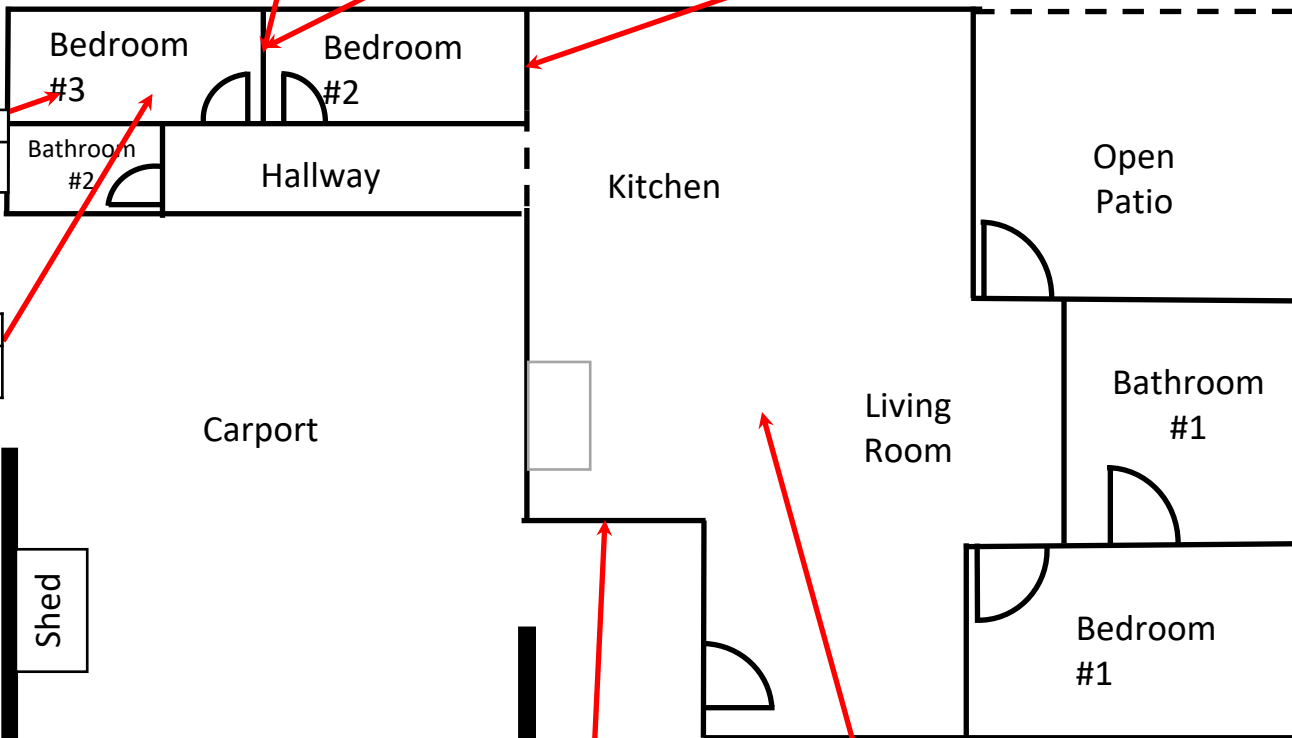
2022-0034-A111	
White Drywall	N
White Joint Compound	Y

2022-0034-A112	
White Drywall	N

2022-0034-A113	
White Drywall	N

2022-0034-A114	
White Drywall	N

2022-0034-A115,116	
White Drywall	N



Carport

Shed

2022-0034-A108	
Brown Cove Base	N
Tan/Brown Mastic	N
White Joint Compound	Y

2022-0034-A109,110	
Brown Cove Base	N
Tan/Brown Mastic	N
White Joint Compound	Y

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

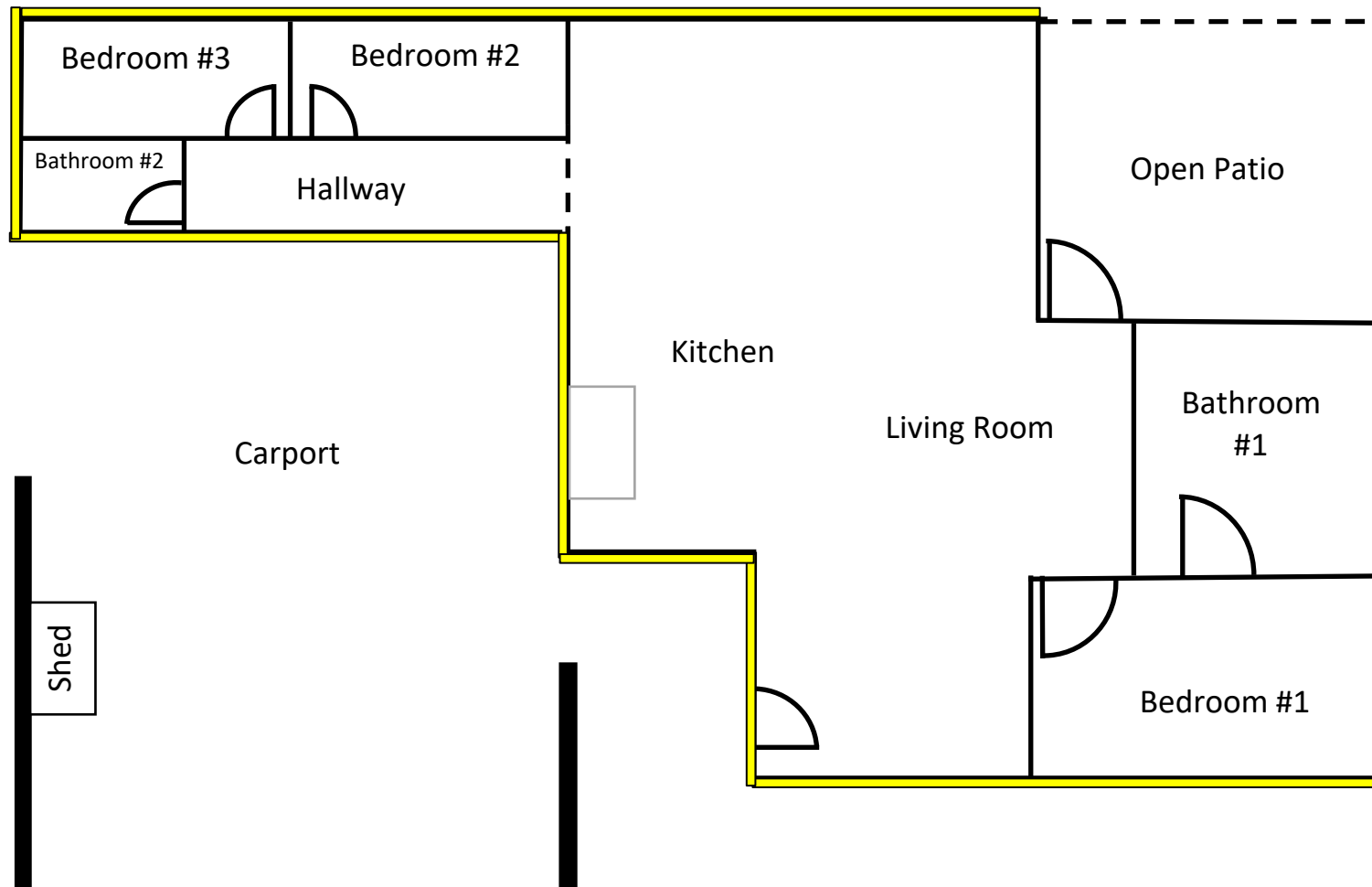
Sketch Not to Scale

Asbestos Sample Location Plan
Samples A108-116
MEC Project No.: 2022-0034


SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



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Legend:

 Lead-containing yellow paint on wood wall

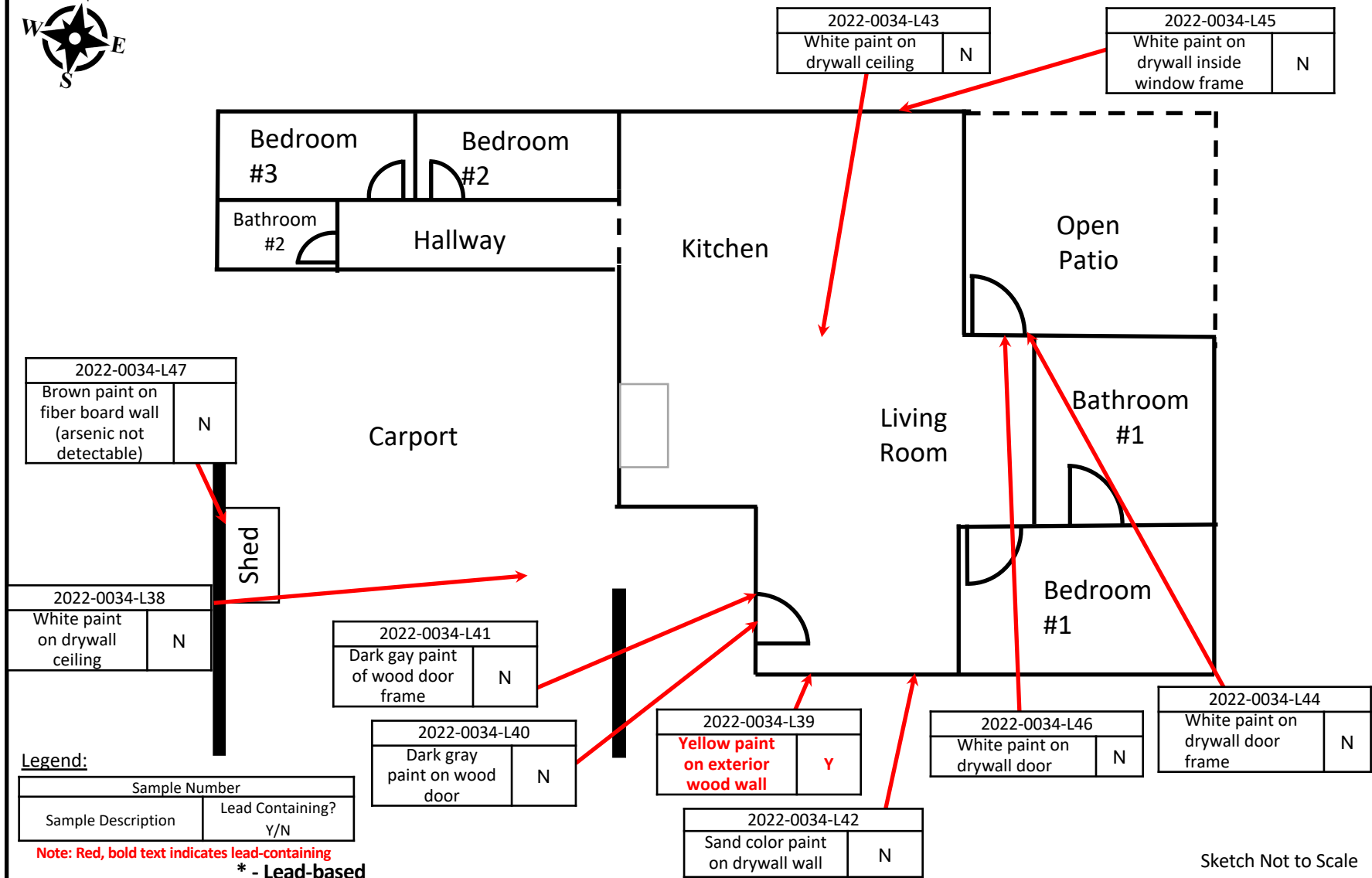
Sketch Not to Scale

Lead Homogeneous Area Plan
MEC Project No.: 2022-0034

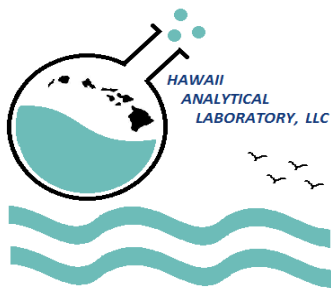
SITE LOCATION:
157 Krauss Avenue Lot No. 347, TMK
(3) 2-1-023:009



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Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Tuesday, March 1, 2022

Mr. Mark Muranaka
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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213443	2022-0034-A90 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213443	2022-0034-A90 Drywall Ceiling Exterior Car Port	Yes	Chrysotile	2	Cellulose (undulose)	5	Calcite + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / white paint</u>							
	Comments							
202213444	2022-0034-A91 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213444	2022-0034-A91 Drywall Ceiling Exterior Car Port	Yes	Chrysotile	2	Cellulose (undulose)	5	Calcite + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / off-white paint</u>							
	Comments							
202213445	2022-0034-A92 Drywall Ceiling Exterior Car Port		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> <u>White drywall</u>							
	Comments							
202213445	2022-0034-A92 Drywall Ceiling Exterior Car Port	Yes	Chrysotile	2	Cellulose (undulose)	5	Calcite + paint	2/24/2022
	<u>Layer</u> <u>White joint compound / white paint</u>							
	Comments							

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213446	2022-0034-A93 Caulking Wood Exterior		NONE DETECTED		Cellulose (undulose)	2	Binder + paint	2/24/2022
	<u>Layer</u> <u>Gray caulk / paint</u>							
	Comments							
202213447	2022-0034-A94 Caulking Wood Exterior		NONE DETECTED		Cellulose (undulose)	2	Binder + paint	2/24/2022
	<u>Layer</u> <u>Gray caulk / paint</u>							
	Comments							
202213448	2022-0034-A95 Caulking Wood Exterior		NONE DETECTED		Cellulose (undulose)	2	Binder + paint	3/1/2022
	<u>Layer</u> <u>Gray caulk / paint</u>							
	Comments							
202213449	2022-0034-A96 Tile Interior Kitchen	Yes	Chrysotile	2	None detected		Vinyl	2/24/2022
	<u>Layer</u> <u>Beige floor tile</u>							
	Comments							
202213449	2022-0034-A96 Tile Interior Kitchen	Yes	Chrysotile	8	None detected		Tar	2/24/2022
	<u>Layer</u> <u>Black mastic</u>							
	Comments							
202213450	2022-0034-A97 Tile Interior Kitchen	Yes	Chrysotile	2	None detected		Vinyl	2/24/2022
	<u>Layer</u> <u>Beige floor tile</u>							
	Comments							
202213450	2022-0034-A97 Tile Interior Kitchen	Yes	Chrysotile	8	None detected		Tar	2/24/2022
	<u>Layer</u> <u>Black mastic</u>							
	Comments							
202213451	2022-0034-A98 Tile Interior Kitchen	Yes	Chrysotile	2	None detected		Vinyl	2/24/2022
	<u>Layer</u> <u>Beige floor tile</u>							
	Comments							

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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213451	2022-0034-A98 Tile Interior Kitchen <u>Layer</u> <u>Black mastic</u> Comments	Yes	Chrysotile	5	None detected	Tar	2/24/2022
202213452	2022-0034-A99 Tiler Interior Hallway <u>Layer</u> <u>Yellow floor tile</u> Comments		NONE DETECTED		None detected	Vinyl	2/24/2022
202213452	2022-0034-A99 Tiler Interior Hallway <u>Layer</u> <u>Yellow mastic / white paint</u> Comments		NONE DETECTED		Cellulose (undulose)	2 Calcite + paint	2/24/2022
202213453	2022-0034-A100 Tiler Interior Hallway <u>Layer</u> <u>Yellow floor tile</u> Comments		NONE DETECTED		None detected	Vinyl	2/24/2022
202213453	2022-0034-A100 Tiler Interior Hallway <u>Layer</u> <u>Yellow mastic / white paint</u> Comments		NONE DETECTED		Cellulose (undulose)	2 Calcite + paint	2/24/2022
202213454	2022-0034-A101 Tiler Interior Hallway <u>Layer</u> <u>Yellow floor tile</u> Comments		NONE DETECTED		None detected	Vinyl	2/24/2022
202213454	2022-0034-A101 Tiler Interior Hallway <u>Layer</u> <u>Yellow mastic / white paint</u> Comments		NONE DETECTED		Cellulose (undulose)	2 Calcite + paint	2/24/2022
202213455	2022-0034-A102 Tile Interior Bathroom <u>Layer</u> <u>Gray ceramic tile</u> Comments		NONE DETECTED		None detected	Ceramic	2/24/2022

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213455	2022-0034-A102 Tile Interior Bathroom		NONE DETECTED		None detected		Cementitious	2/24/2022
	<u>Layer</u> <u>Gray mortar</u>							
	Comments							
202213456	2022-0034-A103 Tile Interior Bathroom		NONE DETECTED		None detected		Ceramic	2/24/2022
	<u>Layer</u> <u>Gray ceramic tile</u>							
	Comments							
202213456	2022-0034-A103 Tile Interior Bathroom		NONE DETECTED		None detected		Cementitious	2/24/2022
	<u>Layer</u> <u>Gray mortar</u>							
	Comments							
202213457	2022-0034-A104 Tile Interior Bathroom		NONE DETECTED		None detected		Ceramic	2/24/2022
	<u>Layer</u> <u>Gray ceramic tile</u>							
	Comments							
202213457	2022-0034-A104 Tile Interior Bathroom		NONE DETECTED		None detected		Cementitious	2/24/2022
	<u>Layer</u> <u>Gray mortar</u>							
	Comments							
202213457	2022-0034-A104 Tile Interior Bathroom		NONE DETECTED		None detected		Cementitious	2/24/2022
	<u>Layer</u> <u>Off-white grout</u>							
	Comments							
202213458	2022-0034-A105 Sink Undercoating Interior Kitchen	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/25/2022
	<u>Layer</u> <u>Black sink undercoating</u>							
	Comments							
202213459	2022-0034-A106 Sink Undercoating Interior Kitchen	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/25/2022
	<u>Layer</u> <u>Black sink undercoating</u>							
	Comments							

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Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213460	2022-0034-A107 Sink Undercoating Interior Kitchen <u>Layer</u> <u>Black sink undercoating</u> Comments	Yes	Chrysotile	4	Cellulose (undulose)	2	Tar + calcite	2/25/2022
202213461	2022-0034-A108 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>Brown cove base</u> Comments		NONE DETECTED		None detected		Vinyl + binder	2/25/2022
202213461	2022-0034-A108 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>Tan / brown mastic</u> Comments		NONE DETECTED		None detected		Binder + other	2/25/2022
202213461	2022-0034-A108 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>White joint compound</u> Comments	Yes	Chrysotile	2	Cellulose (undulose)	2	Calcite + other	2/25/2022
202213462	2022-0034-A109 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>Brown cove base</u> Comments		NONE DETECTED		None detected		Vinyl + binder	2/25/2022
202213462	2022-0034-A109 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>Tan / brown mastic</u> Comments		NONE DETECTED		None detected		Binder + other	2/25/2022
202213462	2022-0034-A109 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>White joint compound</u> Comments	Yes	Chrysotile	< 1	Cellulose (undulose)	5	Calcite + other	2/25/2022
202213463	2022-0034-A110 Cove Base White Mastic Interior Kitchen <u>Layer</u> <u>Brown cove base</u> Comments		NONE DETECTED		None detected		Vinyl + binder	3/1/2022

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Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213463	2022-0034-A110 Cove Base White Mastic Interior Kitchen		NONE DETECTED		None detected		Binder + other	3/1/2022
	<u>Layer</u> Tan / brown mastic							
	Comments							
202213463	2022-0034-A110 Cove Base White Mastic Interior Kitchen	Yes	Chrysotile	< 1	Cellulose (undulose)	5	Calcite + other	3/1/2022
	<u>Layer</u> White joint compound							
	Comments							
202213464	2022-0034-A111 Drywall Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/24/2022
	<u>Layer</u> White drywall							
	Comments							
202213464	2022-0034-A111 Drywall Interior Bedroom	Yes	Chrysotile	< 1	Cellulose (undulose)	2	Calcite + other	2/25/2022
	<u>Layer</u> White joint compound / off-white paint							
	Comments							
202213465	2022-0034-A112 Drywall Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
	<u>Layer</u> White drywall / off-white paint							
	Comments							
202213466	2022-0034-A113 Drywall Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
	<u>Layer</u> White drywall / off-white paint							
	Comments							
202213467	2022-0034-A114 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
	<u>Layer</u> White drywall / white paint							
	Comments							
202213468	2022-0034-A115 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
	<u>Layer</u> White drywall / white paint							
	Comments							

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Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201617
Date Submitted: 2/20/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213469	2022-0034-A116 Drywall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/24/2022
<u>Layer</u>	<u>White drywall / white paint</u>							
Comments								

General Comments

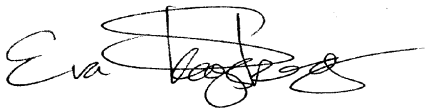
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Eva Skogsberg
Laboratory Manager

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
157 Krauss Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201617

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A90	Drywall ceiling Exterior Car Port	2/16/22	Bulk		PLM		202213443
2022-0034-A91	Drywall ceiling Exterior Car Port	2/16/22	Bulk		PLM		202213444
2022-0034-A92	Drywall ceiling Exterior Car Port	2/16/22	Bulk		PLM		202213445
2022-0034-A93	Caulking Wood Exterior	2/16/22	Bulk		PLM		202213446
2022-0034-A94	Caulking Wood Exterior	2/16/22	Bulk		PLM		202213447
2022-0034-A95	Caulking Wood Exterior	2/16/22	Bulk		PLM		202213448
2022-0034-A96	Tile Interior Kitchen	2/16/22	Bulk		PLM		202213449
2022-0034-A97	Tile Interior Kitchen	2/16/22	Bulk		PLM		202213450
2022-0034-A98	Tile Interior Kitchen	2/16/22	Bulk		PLM		202213451
2022-0034-A99	Tile Interior Hallway	2/16/22	Bulk		PLM		202213452
2022-0034-A100	Tile Interior Hallway	2/16/22	Bulk		PLM		202213453
2022-0034-A101	Tile Interior Hallway	2/16/22	Bulk		PLM		202213454

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogsberg

2/20/22 10:30am

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173

Page: 5 of 5



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
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Invoice To* : Faye Yamaguchi
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Phone / Cell No.* : (808) 845-8822
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Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
157 Krauss Avenue

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201617

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A102	Tile Interior Bathroom	2/16/22	Bulk		PLM		202213455
2022-0034-A103	Tile Interior Bathroom	2/16/22	Bulk		PLM		202213456
2022-0034-A104	Tile Interior Bathroom	2/16/22	Bulk		PLM		202213457
2022-0034-A105	Sink Undercoating Interior Kitchen	2/16/22	Bulk		PLM		202213458
2022-0034-A106	Sink Undercoating Interior Kitchen	2/16/22	Bulk		PLM		202213459
2022-0034-A107	Sink Undercoating Interior Kitchen	2/16/22	Bulk		PLM		202213460
2022-0034-A108	Cove Base White Mastic Interior Kitchen	2/16/22	Bulk		PLM		202213461
2022-0034-A109	Cove Base White Mastic Interior Kitchen	2/16/22	Bulk		PLM		202213462
2022-0034-A110	Cove Base White Mastic Interior Kitchen	2/16/22	Bulk		PLM		202213463
2022-0034-A111	Drywall Interior Bedroom	2/16/22	Bulk		PLM		202213464
2022-0034-A112	Drywall Interior Bedroom	2/16/22	Bulk		PLM		202213465
2022-0034-A113	Drywall Interior Bedroom	2/16/22	Bulk		PLM		202213466

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogsberg

2/20/22 10:30am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

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*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173-.....

Page: 5 of 5

☐ New Client?

Report To*	:	Mark Muranaka/Kyle Tanaka
Company	:	Muranaka Environmental Consultants, Inc.
Address*	:	2850 Paa St., Suite 100B
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Email / Fax	:	mark.m@muranakaenvironmental.com

Invoice To*	:	Faye Yamaguchi
Company	:	Muranaka Environmental Consultants, Inc.
Address*	:	2850 Paa St. Suite 100B
	:	Honolulu, HI 96819
Phone / Cell No.*	:	(808) 845-8822
Purchase Order No.	:	
Email Invoice To	:	faye@muranakaenvironmental.com

Need Results By*:

- | | |
|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | 5 Working Days (WD) |
| <input type="checkbox"/> | 4 WD |
| <input type="checkbox"/> | 3 WD |
| <input type="checkbox"/> | 2 WD |
| <input type="checkbox"/> | 24 hours |
| <input type="checkbox"/> | 6 hours or less |
| <input type="checkbox"/> | 4 hours or less |
| <input type="checkbox"/> | 1-2 hours |

Site/Project Name:
157 Krauss Avenue

Client Project No.:	2022-0034
---------------------	-----------

Verbal results?	
-----------------	--

Sampled By & Certif. # :	Gordan Lewis HIASB-4949
--------------------------	-------------------------

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:

□ + stop / SAMPLE
 □ + stop / LAYER

Lab Report No.:

202201617

[illegible]

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogsberg


2/20/22 10:30am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

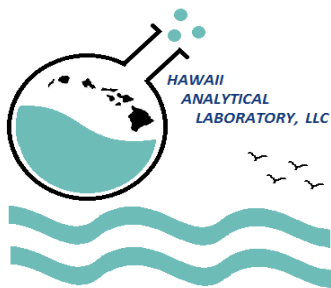
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*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC via USPS☐ via drop box☐ via FedEx☐ via pick up

awb#: 173

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201629
Date Submitted: 2/22/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213639	2022-0034-L38 Carport Ceiling	< 40	mg/kg	2/22/2022
Comments				
202213640	2022-0034-L39 Outside Walls	40	mg/kg	2/22/2022
Comments				
202213641	2022-0034-L40 Entry Door	< 40	mg/kg	2/22/2022
Comments				
202213642	2022-0034-L41 Entry Door Frame	< 40	mg/kg	2/22/2022
Comments				
202213643	2022-0034-L42 Walls	< 40	mg/kg	2/22/2022
Comments				
202213644	2022-0034-L43 Ceiling	< 40	mg/kg	2/22/2022
Comments				
202213645	2022-0034-L44 Inside Door Frame	< 40	mg/kg	2/22/2022
Comments				
202213646	2022-0034-L45 Inside Window Frame	< 40	mg/kg	2/22/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201629
Date Submitted: 2/22/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213647	2022-0034-L46 Inside Door	< 40	mg/kg	2/22/2022
Comments				

Total Recoverable Arsenic (FAAS)

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213648	2022-0034-L47 Shed	< 41	mg/kg	2/22/2022
Comments				

Total Recoverable Lead

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213648	2022-0034-L47 Shed	< 40	mg/kg	2/22/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201629
Date Submitted: 2/22/2022
Your Project: 2022-0034, 157 Krauss Avenue, 2/16/22

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

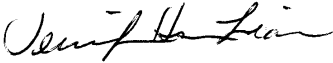
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

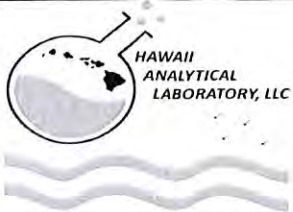
= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:

157 Krauss Avenue

Client Project No.:

2022-0034

Verbal results?

☐

Sampled By & Certif. # :

Leah Barkai PB-1269

Special Instructions:

Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201629

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L38	Carport Ceiling	2/16/22	Bulk		Lead		202213639
2022-0034-L39	Outside Walls	2/16/22	Bulk		Lead		202213640
2022-0034-L40	Entry Door	2/16/22	Bulk		Lead		202213641
2022-0034-L41	Entry Door Frame	2/16/22	Bulk		Lead		202213642
2022-0034-L42	Walls	2/16/22	Bulk		Lead		202213643
2022-0034-L43	Ceiling	2/16/22	Bulk		Lead		202213644
2022-0034-L44	Inside Door Frame	2/16/22	Bulk		Lead		202213645
2022-0034-L45	Inside Window Frame	2/16/22	Bulk		Lead		202213646
2022-0034-L46	Inside Door	2/16/22	Bulk		Lead		202213647
2022-0034-L47	Shed	2/16/22	Bulk		Lead and arsenic		202213648

Relinquished By (Print and Sign)

Leah Barkai

Date/Time

2/16/22

Received By (Print and Sign)

Eva Skogsberg

Date/Time

4/20/22 11:15 am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173

TMK (3)2-1-023:113:0000
 LOT NO. 215-A
 320 Todd Avenue
 HILO, HAWAII ISLAND

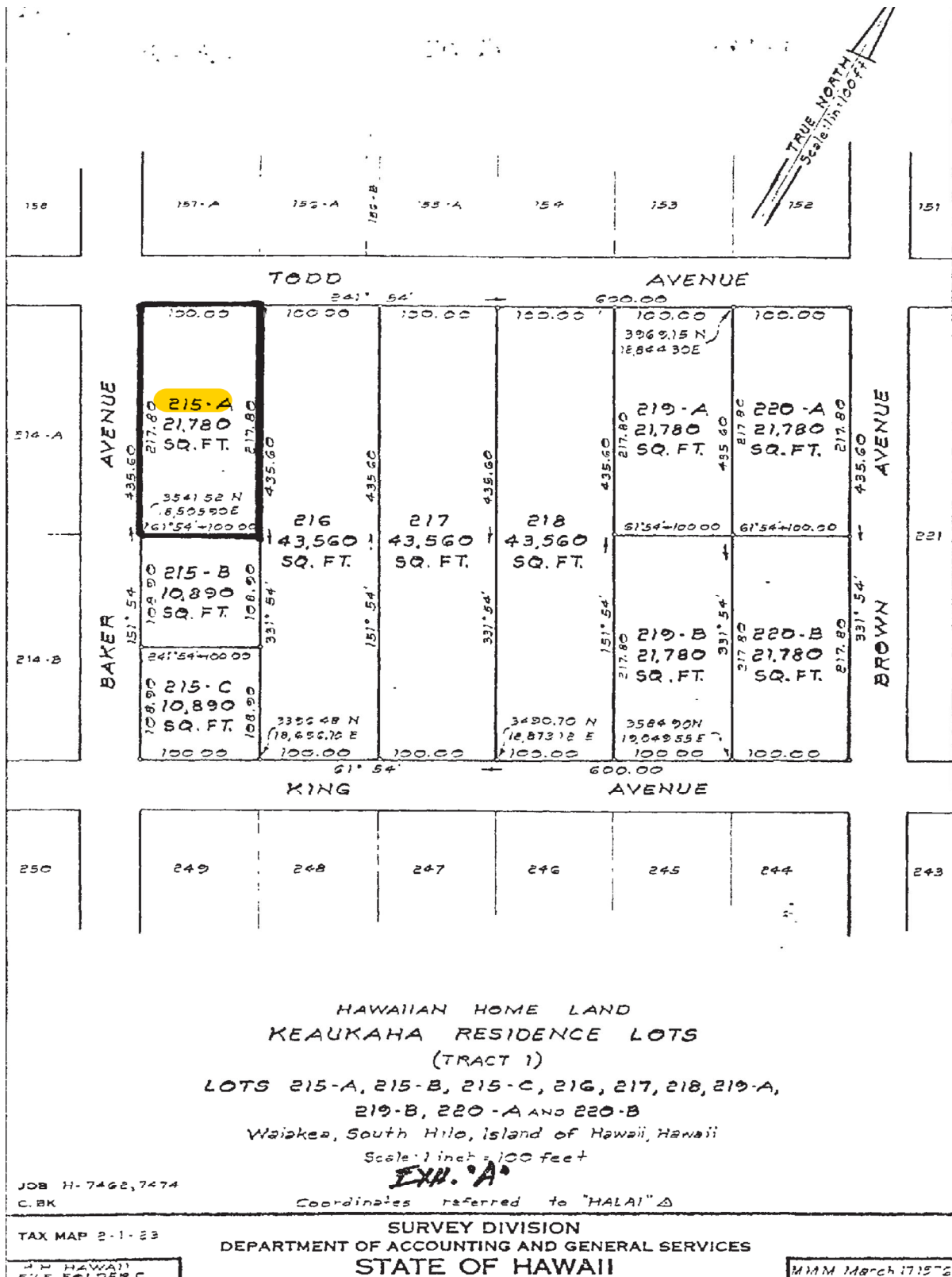




Image capture: Sep 2011 © 2021 Google





HAZARDOUS MATERIALS SURVEY REPORT
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113
Hilo, Hawai'i

Survey Conducted On:
February 17, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIKAMILO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 320 Todd Avenue, Hilo, HI 96720 Lot No. 215-A, TMK (3) 2-1-023:113. The survey was conducted on February 15, 2022 and March 14, 2022. Results can be found in Section 5.0.

No asbestos-containing materials (ACM) were found on the structure.

Lead-containing paints (LCP) were found in all eight samples collected from this property. Lead-based paints (LBP) were found in three out of eight samples: yellow paint on wood, tan paint on fiberboard, and white paint on wood. Due to the state of the property the locations and building components and respective estimated quantity (affected area) are unknown. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Summary of Lead-Containing Paint 320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113

Lead-Containing Paint	Location	Condition	Estimated Quantity (Affected Area)
Yellow paint on wood (Photo 2)	N/A	Damaged	N/A
Brown paint on wood (Photo 3)	N/A	Damaged	N/A
Pink paint on wood (Photo 4)	N/A	Damaged	N/A
Blue paint on wood (Photo 4)	N/A	Damaged	N/A
Tan paint on fiberboard (Photo 3)	N/A	Damaged	N/A
Gray paint on wood (Photo 5)	N/A	Damaged	N/A
White paint on wood (Photo 2)	N/A	Damaged	N/A
Red paint on wood window frame (Photo 6)	Window Frame	Damaged	N/A
Green paint on wood (Photo 6)	N/A	Damaged	N/A

Arsenic-containing material was found. See summary of Arsenic containing building materials below for materials, locations, and estimated quantity and Section 6.3 Arsenic for recommendations.

Summary of Arsenic-Containing Building Material
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113

Material	Location	Estimated Quantity
Fiberboard (Photo 3)	Unknown	Unknown

¹ units of mg/kg

² using EPA method 3051m/7000bm

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 320 Todd Avenue, Hilo, HI 96720 Lot No. 215-A, TMK (3) 2-1-023:113. The survey was conducted on February 15, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, 560/5-85-030a, *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully

removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

4.3 Arsenic

Arsenic is commonly used in wood preservation. Common exposure pathways are through inhalation and dermal contact with wood treated with arsenic. During the sampling, the inspector wore a half-face, dual cartridge, air-purifying respirator with P-100 filters and disposable gloves. Each sample was placed into a labeled, re-sealable plastic container. Each sample was logged onto a field data sheet with a description of the sample. Each sample was analyzed using flame atomic absorption (EPA Method 7000Bm) to determine the amount of arsenic in each sample.

5.0 Observations and Results

At the time of the inspection, the residential structure was found to have been torn down. It originally was a two-story wooden structure (Photo no. 1). The structure was therefore not able to be thoroughly inspected and the samples collected represented only the building components that were readily accessible to the inspector. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of twelve (12) suspect ACM samples were collected. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

- White drywall
- Yellow 12"x 12" tile
- White 12"x 12" tile
- Off-white 12"x 12" tile

Table 1
Asbestos Sampling Results
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113
Collected on March 14, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A150	Unknown	Off-white drywall	NAD	M	F	No
2022-0034-A151	Unknown	Off-white drywall	NAD	M	F	No
2022-0034-A152	Unknown	Off-white drywall	NAD	M	F	No
2022-0034-A153	Unknown	Yellow 12"x 12" tile	NAD	M	F	No
2022-0034-A154	Unknown	Yellow 12"x 12" tile	NAD	M	F	No
2022-0034-A155	Unknown	Yellow 12"x 12" tile	NAD	M	F	No
2022-0034-A156	Unknown	White 12"x 12" tile	NAD	M	F	No
2022-0034-A157	Unknown	White 12"x 12" tile	NAD	M	F	No
2022-0034-A158	Unknown	White 12"x 12" tile	NAD	M	F	No
2022-0034-A159	Unknown	Off-white 12"x 12" tile	NAD	M	F	No
2022-0034-A160	Unknown	Off-white 12"x 12" tile	NAD	M	F	No
2022-0034-A161	Unknown	Off-white 12"x 12" tile	NAD	M	F	No

¹ NAD = No asbestos detected

² Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

³ F=Friable, NF=Non-Friable

⁴ Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of nine (9) and paint chip samples were collected. Due to the state of the property not all sampling locations or building components were able to be identified. The only clear building material was an intact window frame. The samples will be considered exterior. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Exterior:

- Yellow wood
- Brown wood
- Pink wood
- Blue wood
- Tan fiberboard
- Gray wood
- White wood
- Red window frame

Table 2
Paint Chip Sampling Results
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113
Collected on February 17, 2022

Location	Paint Color	Component	Substrate	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
Unknown	Yellow	Possible wall	Wood	2022-0034-L55	7,200	Yes	Yes
Unknown	Brown	Possible wall	Wood	2022-0034-L56	1,100	Yes	No
Unknown	Pink	Possible wall	Wood	2022-0034-L57	1,100	Yes	No
Unknown	Blue	Possible wall	Wood	2022-0034-L58	4100	Yes	No
Unknown	Tan	Unknown	Fiberboard	2022-0034-L59	22,200	Yes	Yes
Unknown	Gray	Unknown	Wood	2022-0034-L60	850	Yes	No
Unknown	White	Unknown	Wood	2022-0034-L61	5,800	Yes	Yes
Window frame	Red	Window frame	Wood	2022-0034-L62	3,200	Yes	No
Unknown	Green	Unknown	Wood	2022-0034-L63	2,800	Yes	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

5.3 Arsenic

Only one (1) fiber board sample was collected from the house. The sample was recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for total arsenic analysis.

Table 3 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.3 for the Laboratory Data and Chain-of-Custody Documentation.

Table 3
Arsenic-Containing Building Material Sampling results
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113
Collected on February 17, 2022

Sample Number	Material	Location	Results ¹	Detected? ²
2022-0034-L59	Fiber Board	Unknown	22,200	Yes

¹ units of mg/kg

² using EPA method 3051m/7000bm

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average. Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 $\mu\text{g}/\text{m}^3$).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

6.3 Arsenic

When arsenic-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, State of Hawaii Department of Health, and HIOSH State of Hawaii Department of Labor, Division of Occupational Safety and Health regulations is required.

7.0 Limitations

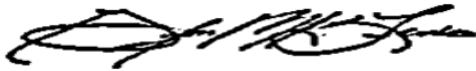
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2:

Lead-containing and lead-based yellow paint on wood.

Lead-containing, and lead-based white paint on wood.

No asbestos-containing material was found.



Photo No. 3:

Lead-containing, lead-based and arsenic tan paint on fiber board.

Lead-containing brown paint on wood.



Photo No. 4:

Lead-containing pink paint on wood and blue paint on wood.



Photo No. 5:

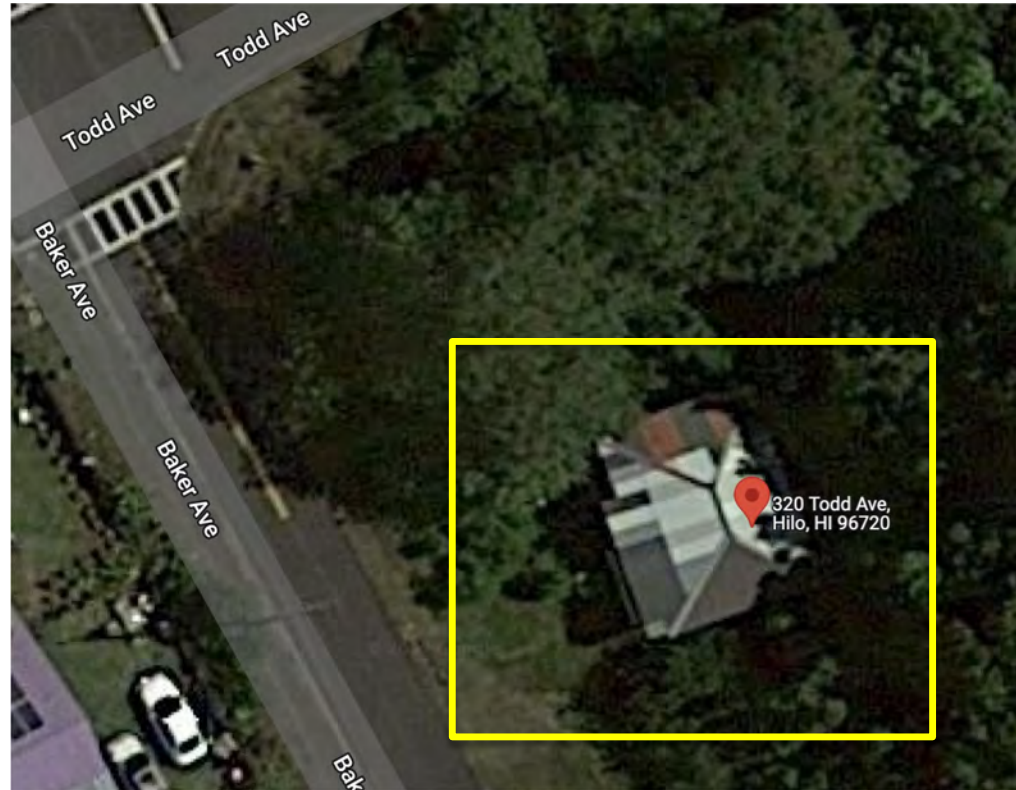
Lead-containing gray paint on wood.



Photo No. 6:

Lead-containing red paint on wood window frame and green paint on wood.

Section 11.0
Homogeneous Area
and
Sample Location Plan



Site Location Map
MEC Project No.: 2022-0034

Drawing No: HZ-1

Page 1 of 3

SITE LOCATION:
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-
023:113



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823

2022-0034-A150,151,152		
White drywall		Y



2022-0034-A153,154,155		
Yellow 12"x 12" tile		Y



2022-0034-A156,157,158		
White 12"x 12" tile		Y



2022-0034-A153,154,155		
Off-white 12"x 12" tile		Y



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Note: Red, bold text indicates asbestos-containing

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A150-161
MEC Project No.: 2022-0034

SITE LOCATION:
320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823

2022-0034-L55		
Yellow paint on wood		Y



2022-0034-L56		
Brown paint on wood		Y



2022-0034-L57		
Pink paint on wood		Y



2022-0034-L58		
Blue paint on wood		Y

2022-0034-L59		
Tan paint on wood* (arsenic-containing)		Y

2022-0034-L60		
Gray paint on wood		Y

2022-0034-L61		
White paint on wood*		Y



2022-0034-L63		
Green paint on wood		Y

2022-0034-L62		
Red paint on wood		Y

Legend:

Sample Number	
Sample Description	Lead Containing? Y/N

Note: Red, bold text indicates lead-containing

* - Lead-based

Sketch Not to Scale

Lead Sample Location Plan
Samples L55-63
MEC Project No.: 2022-0034

Drawing No: HZ-3

Page 3 of 3

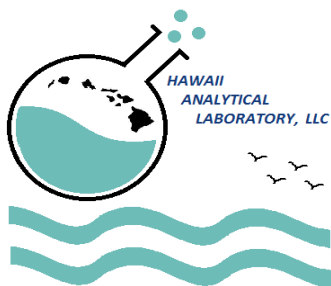
SITE LOCATION:

320 Todd Avenue Lot No. 215-A, TMK (3) 2-1-023:113



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823

Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, March 21, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202202551
Date Submitted: 3/15/2022
Your Project: 2022-0034, 320 Todd Ave, 3/14/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202219080	2022-0034-A150 Drywall Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	3/17/2022
	<u>Layer</u> Off-white drywall						
	Comments						
202219081	2022-0034-A151 Drywall Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	3/17/2022
	<u>Layer</u> Off-white drywall						
	Comments						
202219082	2022-0034-A152 Drywall Interior		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	3/17/2022
	<u>Layer</u> Off-white drywall						
	Comments						
202219083	2022-0034-A153 Tile Yellow Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
	<u>Layer</u> Clear adhesive						
	Comments						
202219083	2022-0034-A153 Tile Yellow Interior		NONE DETECTED		None detected	Calcite + quartz + vinyl	3/17/2022
	<u>Layer</u> Yellow floor tile						
	Comments						
202219084	2022-0034-A154 Tile Yellow Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
	<u>Layer</u> Clear adhesive						
	Comments						

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202202551
Date Submitted: 3/15/2022
Your Project: 2022-0034, 320 Todd Ave, 3/14/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202219084	2022-0034-A154 Tile Yellow Interior		NONE DETECTED		None detected	Calcite + quartz + vinyl	3/17/2022
<u>Layer</u>	<u>Yellow floor tile</u>						
Comments							
202219085	2022-0034-A155 Tile Yellow Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Clear adhesive</u>						
Comments							
202219085	2022-0034-A155 Tile Yellow Interior		NONE DETECTED		None detected	Calcite + quartz + vinyl	3/17/2022
<u>Layer</u>	<u>Yellow floor tile</u>						
Comments							
202219086	2022-0034-A156 Tile White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							
202219086	2022-0034-A156 Tile White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>White floor tile</u>						
Comments							
202219087	2022-0034-A157 Tile White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							
202219087	2022-0034-A157 Tile White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>White floor tile</u>						
Comments							
202219088	2022-0034-A158 Tile White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202202551
Date Submitted: 3/15/2022
Your Project: 2022-0034, 320 Todd Ave, 3/14/22

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202219088	2022-0034-A158 Tile White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>White floor tile</u>						
Comments							
202219089	2022-0034-A159 Tile Off-White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							
202219089	2022-0034-A159 Tile Off-White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>Off-white floor tile</u>						
Comments							
202219090	2022-0034-A160 Tile Off-White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							
202219090	2022-0034-A160 Tile Off-White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>Off-white floor tile</u>						
Comments							
202219091	2022-0034-A161 Tile Off-White Interior		NONE DETECTED		None detected	Binder + other	3/17/2022
<u>Layer</u>	<u>Off-white adhesive</u>						
Comments							
202219091	2022-0034-A161 Tile Off-White Interior		NONE DETECTED		None detected	Calcite + vinyl	3/17/2022
<u>Layer</u>	<u>Off-white floor tile</u>						
Comments							

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202202551
Date Submitted: 3/15/2022
Your Project: 2022-0034, 320 Todd Ave, 3/14/22

General Comments

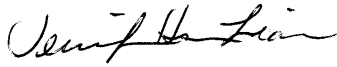
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

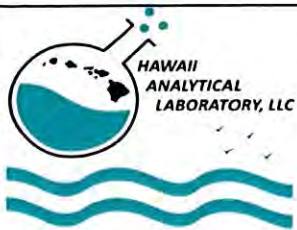
< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranaenvironmental.com

Site/Project Name:
320 Todd Ave

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranaenvironmental.com

PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202202551

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1 2022-0034-A15	Drywall Interior	3/14/2022	Bulk		PLM		202219080
2 2022-0034-A15	Drywall Interior	3/14/2022	Bulk		PLM		202219081
3 2022-0034-A15	Drywall Interior	3/14/2022	Bulk		PLM		202219082
4 2022-0034-A15	Tile Yellow Interior	3/14/2022	Bulk		PLM		202219083
5 2022-0034-A15	Tile Yellow Interior	3/14/2022	Bulk		PLM		202219084
6 2022-0034-A15	Tile Yellow Interior	3/14/2022	Bulk		PLM		202219085
7 2022-0034-A15	Tile White Interior	3/14/2022	Bulk		PLM		202219086
8 2022-0034-A15	Tile White Interior	3/14/2022	Bulk		PLM		202219087
9 2022-0034-A15	Tile White Interior	3/14/2022	Bulk		PLM		202219088
10 2022-0034-A15	Tile Off-white Interior	3/14/2022	Bulk		PLM		202219089
11 2022-0034-A16	Tile Off-white Interior	3/14/2022	Bulk		PLM		202219090
12 2022-0034-A16	Tile Off-white Interior	3/14/2022	Bulk		PLM		202219091
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
Leah Barkai		3/14/2022		Corin Forrest		03-15-22A10:59 RCVD	

*Sample description can be paint chips, concrete, specific sample collection location, etc....

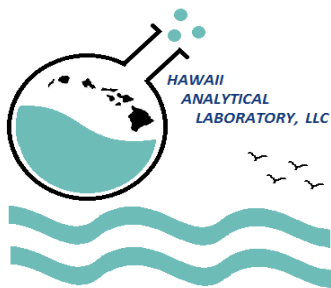
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC ☐ via USPS ☐ via drop box ☐ via FedEx ☐ via pick up

awb#: 173-21348063

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201623
Date Submitted: 2/20/2022
Your Project: 2022-0034, 320 Todd Ave, 2/17/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213586	2022-0034-L55 Yellow Wood	7200	mg/kg	2/23/2022
Comments				
202213587	2022-0034-L56 Brown Wood	1100	mg/kg	2/23/2022
Comments				
202213588	2022-0034-L57	1100	mg/kg	2/23/2022
Comments				
202213589	2022-0034-L58 Blue Wood	4100	mg/kg	2/23/2022
Comments				
202213590	2022-0034-L59 Tan Fiberboard	22000	mg/kg	2/23/2022
Comments				
202213591	2022-0034-L60 Grey Wood	850	mg/kg	2/23/2022
Comments				
202213592	2022-0034-L61 White Wood	5800	mg/kg	2/23/2022
Comments				
202213593	2022-0034-L62 Red Wood	3200	mg/kg	2/23/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka

Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822

Facsimile: (808) 845-8823

Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201623

Date Submitted: 2/20/2022

Your Project: 2022-0034, 320 Todd Ave, 2/17/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213594	2022-0034-L63 Green Wood	2800	mg/kg	2/23/2022
Comments				

Total Recoverable Arsenic (FAAS)

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213591	2022-0034-L60 Grey Wood	2200	mg/kg	2/28/2022
Comments Due to sample heterogeneity, the UNK RPD was outside control limits.				

All Quality Control data are acceptable unless otherwise noted.

MRL for lead air is 5ug.

MRL for lead wipe is 10ug.

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

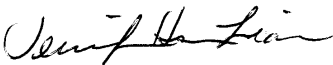
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
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Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
320 Todd Ave

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Leah Barkai PB-1269

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201623

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L55	Yellow Wood	2/17/22	Bulk		Lead		202213586
2022-0034-L56	Brown Wood	2/17/22	Bulk		Lead		202213587
2022-0034-L57	2022-0034-L57+B20:B21	2/17/22	Bulk		Lead		202213588
2022-0034-L58	Blue Wood	2/17/22	Bulk		Lead		202213589
2022-0034-L59	Tan Fiberboard	2/17/22	Bulk		Lead and arsenic	arsenic	202213590
2022-0034-L60	Grey Wood	2/17/22	Bulk		Lead		202213591
2022-0034-L61	White Wood	2/17/22	Bulk		Lead		202213592
2022-0034-L62	Red Wood	2/17/22	Bulk		Lead		202213593
2022-0034-L63	Green Wood	2/17/22	Bulk		Lead		202213594

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/17/22

Eva Skogsberg

2/20/22 11:05am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb# 173-.....

TMK (3)2-1-025:192:0000
 LOT NO. 70B
 1420 Auwae Road
 PANAWEA, HAWAII ISLAND

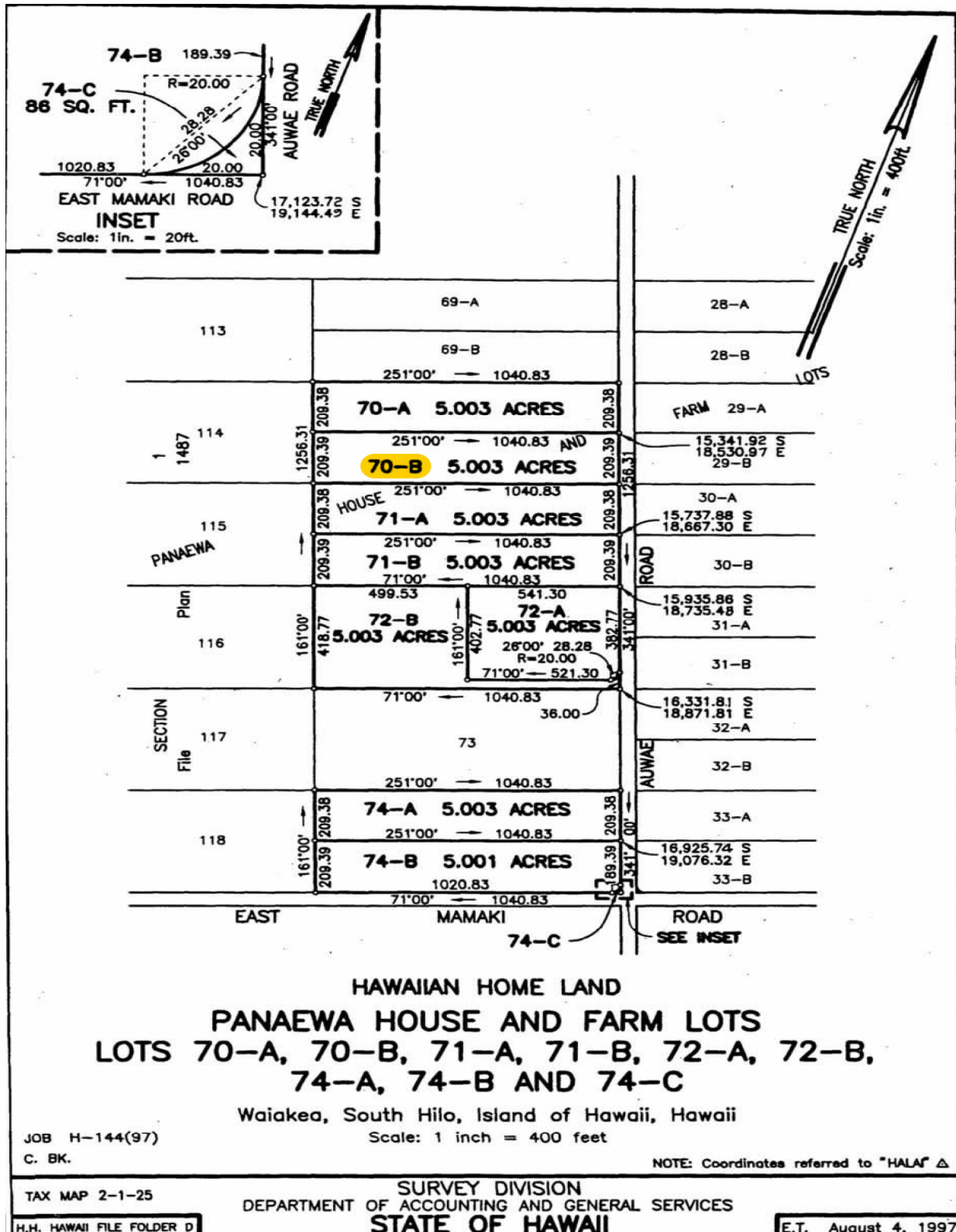




Image capture: Sep 2011 © 2021 Google



HAZARDOUS MATERIALS SURVEY REPORT
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
Hilo, Hawaii

Survey Conducted On:
February 16, 2022

Prepared for:

Hawaii Engineering Group, Inc.
1088 Bishop Street, Suite 2506
Honolulu, HI 96813

Prepared by:



MURANAKA ENVIRONMENTAL CONSULTANTS, INC.
401 WAIKAMULO ROAD, SUITE 101A
HONOLULU, HAWAII 96819
(808) 845-8822

MEC Project No. 2022-0034

March 25, 2022

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Executive Summary

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 1420 Auwae Rd, Hilo, HI 96720 Lot No. 70B, TMK (3) 2-1-025:192. The survey was conducted on February 16, 2022. Results can be found in Section 5.0.

There were no asbestos containing materials found on the property.

Lead-containing paints (LCP) were found on the exterior beams, walls, window frame, door trim, exterior walls, and the ceiling of the hallway, bathroom, and bedroom. No lead-based paints (LBP) were found on the property. See Summary of Lead-Containing Paint table below for materials, locations, conditions, and estimated quantities and Section 6.2 Lead Paint for recommendations.

Summary of Lead-Containing Paint 1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192

Lead-Containing Paint	Location	Condition	Estimated Quantity (Affected Area)
Green paint on wood (Photo 2)	Exterior beams, walls, window frame, door trim	Good	198 ft ²
White paint on wood wall (Photo 3)	Exterior wall	Good	841.44 ft ²
White paint on compressed board (Photo 4)	Ceiling of hallway, bathroom, bedroom	Good	317 ft ²

Arsenic containing materials were found on the ceiling of the hallway, bathroom, and bedroom. See summary of Arsenic containing building materials below for materials, locations, and estimated quantity and Section 6.3 Arsenic for recommendations.

Summary of Arsenic-Containing Building Material 1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192

Material	Location	Estimated Quantity
Compressed board (Photo 4)	Ceiling of hallway, bathroom, bedroom	317 ft ²

1.0 Introduction

Hawaii Engineering Group, Inc. retained the services of Muranaka Environmental Consultants, Inc. to conduct a demolition survey for seven (7) homes on the island of Hawai'i. This report is for 1420 Auwae Rd, Hilo, HI 96720 Lot No. 70B, TMK (3) 2-1-025:192. The survey was conducted on February 16, 2022. Results can be found in Section 5.0.

2.0 Background

Building owner planned to demolish the home that was on the property.

3.0 Scope of Work

MEC was to collect and analyze samples for asbestos, lead paint, and arsenic. This survey was conducted in compliance with applicable Federal, State, and Local regulations concerning building renovations.

4.0 Methodology

4.1 Asbestos

MEC collected samples in accordance with the requirements of the State of Hawaii Administrative Rules (HAR) Chapter 11-501, HAR 11-502, HAR 11-504 and the Environmental Protection Agency (EPA) publication, *560/5-85-030a, Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*.

Polarized-light microscopy (PLM) and the method outlined in 40 CFR 763, Appendix E to Subpart E, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples* (EPA-600/M4-82-020) was used to determine the amount of asbestos in each sample. When asbestos is not detected in a sample or the sample contains asbestos in amounts less than the detection limits of the PLM, it will be reported as "No Asbestos Detected" (NAD). When trace amounts of asbestos ($\leq 1\%$) are detected, that sample shall be reported as having greater than one (1) percent asbestos unless point counting is conducted. MEC shall assume that building components resulting in trace amounts of asbestos is an asbestos-containing material ($>1\%$) unless client requires point counting for an additional fee.

The inspectors wore half-face, dual cartridge, air-purifying respirators with P-100 filters whenever friable suspect asbestos material was sampled. Each suspect asbestos-containing material (ACM) was first wet with water then carefully removed from the building component and placed in a sealed container. The sampling tools were cleaned after each use to avoid cross contamination between samples. Each sample location was logged on a field data sheet with a description of the sample. Samples were then recorded onto a chain-of-custody

form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for PLM analysis.

4.2 Lead Paint

The U.S. Department of Housing and Urban Development “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7: Lead-Based Paint Inspection (1997)*” methodology calls for conducting a walk-through of the buildings to be inspected prior to sample collection to develop a list of room equivalents and testing combinations to be sampled from each building.

A portable Niton XLP 303A X-ray Fluorescence (XRF) Spectrum Analyzer, serial number 102952 was used to identify lead-based painted components. The XRF uses a 40-millicurie cadmium 109 radioactive source that, when exposed to lead-containing building components, causes lead to emit X-Rays with a characteristic energy. The intensity of the radiation is then measured by the instrument and reported as lead in milligrams per square centimeter (mg/cm^2). The XRF measures both the K-Shell and L-Shell of lead. The K-Shell is used to determine the level of lead in the paint. The XRF has a limit of quantization of $1.0 \text{ mg}/\text{cm}^2$. The XRF is held against the sample surface until a reading is displayed at a 95% confidence level. Locations of XRF readings were selected based on the building component type and painting history.

According to HUD, lead-based paint is paint or other surface coatings that contain lead equal to or greater than 1.0 milligram per square centimeter (mg/cm^2) or greater than 0.5 percent by weight (equivalent units are $5,000 \text{ }\mu\text{g}/\text{g}$, $5,000 \text{ mg}/\text{kg}$, or $5,000 \text{ ppm}$ by weight).

Locations of paint samples were selected based on the building component type and homogenous paint film. When an XRF reading was reported as $0.00 \text{ mg}/\text{cm}^2$ or less, MEC collected a paint chip sample of the paint film for that substrate. Paint chip sampling was conducted in accordance with the U.S. Department of Housing in Urban Development’s “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*”.

Each sample was placed into a labeled, re-sealable plastic container, recorded onto a chain of custody form, properly signed and sent to Hawaii Analytical Laboratory, an accredited laboratory for analysis. Paint samples were analyzed using flame atomic absorption spectroscopy (NIOSH Method 7082) to determine the amount of lead in each sample.

4.3 Arsenic

Arsenic is commonly used in wood preservation. Common exposure pathways are through inhalation and dermal contact with wood treated with arsenic. During the sampling, the inspector wore a half-face, dual cartridge, air-purifying

respirator with P-100 filters and disposable gloves. Each sample was placed into a labeled, re-sealable plastic container. Each sample was logged onto a field data sheet with a description of the sample. Each sample was analyzed using flame atomic absorption (EPA Method 7000Bm) to determine the amount of arsenic in each sample.

5.0 Observations and Results

1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192 was a one-story house on stilts (Photo no. 1). The interior and exterior paint of the house was fading and peeling in various locations. Furniture was found scattered throughout the house. The ceiling was falling in various locations. The roof consisted of corrugated sheet metal, had no mastic and was factory painted. We were unable to collect paint samples of the roof therefore assume the roof paint is positive for lead.

5.1 Asbestos

A total of thirty-two (32) suspect ACM samples were collected from the exterior, living room, bedroom 1, bathroom 1, bathroom 2, and bedroom 3. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for PLM asbestos analysis.

Building materials suspected of containing asbestos and sampled included:

Exterior

- White paint and brown caulking on window and door frame
- White paint and white caulking on window and door frame

Living room

- Pink insulation with silver wrap and black tar
- White drywall with white joint compound and white paint
- Tan drywall with white paint

Bedroom 1

- White drywall with white texture/white paint

Bathroom 1

- White caulking
- Beige mastic with white cove base
- Tan canec board with white paint

Bathroom 2

- White caulking
- Beige mastic with white cove base
- White sheet vinyl w/ paper backing and yellow mastic

- Tan canec board with white paint
- Off-white plaster
- White ceramic tile with white grout and dark gray mortar

Bedroom 3

- Tan canec board with white paint

Table 1 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.1 for the Laboratory Data and Chain-of-Custody Documentation.

Table 1
Asbestos Sampling Results
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
Collected on February 16, 2022

Sample No.	Sampling Location	Sample Description	Asbestos % and Type ¹	Type ²	Friability (F/NF) ³	Asbestos Containing? ⁴
2022-0034-A117	Exterior east window & door frame	Brown caulking/white paint	NAD	M	NF	No
		White caulking/white paint				
2022-0034-A118	Exterior north window & door frame	Brown caulking/white paint	NAD	M	NF	No
		White caulking/white paint				
2022-0034-A119	Exterior north window & door frame exterior by door	Brown caulking/white paint	NAD	M	NF	No
		White caulking/white paint				
2022-0034-A120	Southeast of living room insulation	Pink insulation	NAD	TSI	NF	No
		Silver wrap/black tar				
2022-0034-A121	Southeast of living room insulation	Pink insulation	NAD	TSI	NF	No
		Silver wrap/black tar				
2022-0034-A122	Southeast of living room insulation	Pink insulation	NAD	TSI	NF	No
		Silver wrap/black tar				
2022-0034-A123	Living room ceiling	White drywall	NAD	M	F	No
		White joint compound/white paint		M	NF	No
2022-0034-A124	Living room ceiling	White drywall	NAD	M	F	No
		White joint compound/white paint		M	NF	No
2022-0034-A125	Living room ceiling	White drywall	NAD	M	F	No
		White joint compound/white paint		M	NF	No
2022-0034-A126	Living room ceiling	Tan drywall/white paint	NAD	M	F	No
2022-0034-A127	Living room ceiling	Tan drywall/white paint	NAD	M	F	No
2022-0034-A128	Living room ceiling	Tan drywall/white paint	NAD	M	F	No
2022-0034-A129	Living room ceiling	White drywall	NAD	M	F	No
		White texture/white paint	NAD	M	NF	No
2022-0034-A130	Living room ceiling	White drywall	NAD	M	F	No
		White texture/white paint	NAD	M	NF	No
2022-0034-A131	Living room ceiling	White drywall	NAD	M	F	No
		White texture/white paint	NAD	M	NF	No

¹ NAD = No asbestos detected

² Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

³ F=Friable, NF=Non-Friable

⁴ Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

Table 1 (continued)
Asbestos Sampling Results
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
Collected on February 16, 2022

2022-0034-A132	Bathroom #1	White caulking	NAD	M	NF	No
2022-0034-A133	Bathroom #2	White caulking	NAD	M	NF	No
2022-0034-A134	Bathroom #1	White caulking	NAD	M	NF	No
2022-0034-A135	Bathroom #1 wall	Beige mastic	NAD	M	NF	No
		White cove base	NAD	M	NF	No
2022-0034-A136	Bathroom #1 wall	Beige mastic	NAD	M	NF	No
		White cove base	NAD	M	NF	No
2022-0034-A137	Bathroom #1 wall	Beige mastic	NAD	M	NF	No
		White cove base	NAD	M	NF	No
2022-0034-A138	Bathroom #2	Beige mastic	NAD	M	NF	No
		White cove base	NAD			
2022-0034-A139	Bathroom #2	Beige mastic	NAD	M	NF	No
		White cove base	NAD			
2022-0034-A140	Bathroom #2	Beige mastic	NAD	M	NF	No
		White cove base	NAD			
2022-0034-A141	Bathroom #2 Floor	White sheet vinyl w/ paper backing	NAD	M	NF	No
		Yellow mastic	NAD			
2022-0034-A142	Bathroom #2 Floor	White sheet vinyl w/ paper backing	NAD	M	NF	No
		Yellow mastic	NAD			
2022-0034-A143	Bathroom #2 Floor	White sheet vinyl w/ paper backing	NAD	M	NF	No
		Yellow mastic	NAD			
2022-0034-A144	Hallway Floor	Tan canec/white paint	NAD	M	NF	No
2022-0034-A145	Bathroom #2 Floor	Tan canec/white paint	NAD	M	NF	No
2022-0034-A146	Bedroom #3 Floor	Tan canec/white paint	NAD	M	NF	No
2022-0034-A147	Bathroom #2 Floor	Dark gray mortar	NAD	M	NF	No
		Off-white plaster	NAD			
		White ceramic tile	NAD			
		White grout	NAD			
2022-0034-A148	Bathroom #2 Floor	Dark gray mortar	NAD	M	NF	No
		Off-white plaster	NAD			
		White ceramic tile	NAD			
		White grout	NAD			
2022-0034-A149	Bathroom #2 Floor	Dark gray mortar	NAD	M	NF	No
		Off-white plaster	NAD			
		White ceramic tile	NAD			
		White grout	NAD			

1 NAD = No asbestos detected

2 Type of material: surfacing (S), thermal system insulation (TSI), miscellaneous (M)

3 F=Friable, NF=Non-Friable

4 Samples with results of <1% are assumed to be to be asbestos containing and reported as >1%

BOLD texts indicate asbestos-containing

5.2 Lead Paint

A total of seven (7) XRF readings and paint chip samples were collected from the exterior, kitchen, interior, and living room. The paint chip samples were recorded onto a field data sheet, logged on to a Chain-of-Custody form and sent to Hawaii Analytical Laboratory, LLC for total lead analysis. A comprehensive list of samples collected, sample descriptions and laboratory results may be found in Table 2. See Section 12.2 for the Laboratory Data and Chain of Custody Documentation.

Painted building materials that were suspected of containing lead included:

Exterior

- Green paint on wood window trims
- Green paint on wood door frames
- Green paint on wood support beams
- White paint on wood walls
- White paint on wood entry door

Kitchen

- White paint on drywall walls

Interior- Ceiling of hallway, bathroom #1, bedroom #2, bedroom #3

- White paint on compressed board ceiling

Living Room

- White paint on wood door
- White paint on metal door frame
- White paint on textured ceiling tile

Table 2 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.2 for the Laboratory Data and Chain-of-Custody Documentation.

Table 2
XRF and Paint Chip Sampling Results
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
Collected on February 16, 2022

XRF Reading	Location	Paint Color	Component	Substrate	XRF Results (mg/cm ²) ¹	Paint Chip Sample No.	Paint Chip Results (mg/kg) ²	Lead-Containing ³ ?	Lead-Based ⁴ ?
48	Exterior trims	Green	Window trims, door frames, beams	Wood	0.00	2022-0034-L48	1,100	Yes	No
49	Exterior walls	White	Walls	Wood	0.00	2022-0034-L49	890	Yes	No
50	Entry door	White	Door	Wood	0.00	2022-0034-L50	< 40	No	No
51	Interior kitchen walls	White	Walls	Drywall	0.00	2022-0034-L51	< 40	No	No
52	Ceiling	White	Ceiling	Compressed board	0.00	2022-0034-L52	310	Yes	No
53	Living room ceiling	White	Ceiling	Drywall	0.00	2022-0034-L53	< 40	No	No
54	Living room ceiling	White	Ceiling	Fiber board	0.00	2022-0034-L54	< 40	No	No

¹ milligram per square centimeter

² milligrams per kilogram

³ OSHA considers a paint to be lead-containing paint (LCP) if there are any detectable levels of lead in the paint

⁴ According to HUD, lead-based paint (LBP) is defined as any paint, varnish, stain or other applied coating containing 1.0 milligram per square centimeter (mg/cm²) or 5,000 micrograms per gram (µg/g) or 5,000 milligrams per kilogram (mg/kg)

5.3 Arsenic

A total of two (2) canec board samples were collected from the ceiling in the house and in the living room. The samples were recorded onto field data sheets, logged onto a Chain-of-Custody Form and sent to Hawaii Analytical Laboratory LLC, a certified laboratory for total arsenic analysis.

Building materials suspected of containing arsenic and sampled included:

Interior- Ceiling of hallway, bathroom #1, bedroom #2, bedroom #3

- Ceiling compressed board

Living room

- Ceiling fiber board

Table 3 lists the sample locations, descriptions and laboratory results. See Section 11.0 for the Sample Location Plan and Section 12.3 for the Laboratory Data and Chain-of-Custody Documentation.

Table 3
Arsenic-Containing Building Material Sampling results
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
Collected on February 16, 2022

Sample Number	Material	Location	Results ¹	Detected? ²
2022-0034-L52	Ceiling compressed board	Ceiling of hallway, bathroom #1, bedroom #2, bedroom #3	2,100	Yes
2022-0034-L54	Ceiling fiber board	Living room	< 40	No

¹ mg/kg

² EPA method 3051m/7000bm

6.0 Discussion

6.1 Asbestos

When asbestos-containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during the removal of asbestos-containing materials to document air concentrations of asbestos fibers are below the Hawaii Occupational Safety and Health (HIOSH) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time weighted average. Once the asbestos-containing materials have been removed, visual clearance by a certified technician must be performed to document adequate clean up. Asbestos-containing waste must be handled and disposed of in accordance with DOH Title 11 of the Hawaii Administrative Rules (HAR), Chapter 501 Asbestos Requirements.

6.2 Lead Paint

When lead-containing paints are disturbed during demolition or renovation, compliance with EPA, OSHA, and State of Hawaii-Department of Health, is required.

Air sampling should be performed during any demolition or renovation of the building to document that air concentrations of lead dust are below the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic centimeter of air (50 µg/m³).

After lead abatement, a visual inspection should be conducted to confirm that all visible lead-containing material, dust and debris have been removed from the work area. Clearance wipe samples should be collected and analyzed for lead, according to the Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing".

6.3 Arsenic

When arsenic containing materials are disturbed during demolition or renovation, compliance with EPA, OSHA, State of Hawaii Department of Health, and HIOSH State of Hawaii Department of Labor, Division of Occupational Safety and Health regulations is required.

7.0 Limitations

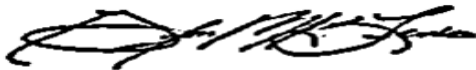
The conclusions, observations and recommendations made in this report are based on the limitations of the contract and the condition of the property at the time of the sampling and inspection. MEC accepts no responsibility for the inaccuracy or inapplicability of any part of this report that may be attributable to a change in the condition of the property after the survey was conducted or attributable to property conditions that were not readily accessible or observable at the time of the survey. In addition, we accept no responsibility for inaccurate or missing information provided by existing documents.

If you have any questions regarding this report, please call our office at (808) 845-8822.

MURANAKA ENVIRONMENTAL CONSULTANTS, INC.



Leah Barkai
Environmental Specialist
Lead Certification: PB-1269



Gordan Lewis
Environmental Specialist
Asbestos Certification: HIASB-4949

8.0 References

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910. Washington DC. US Government Printing Office, 1989.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.62. Washington DC. US Government Printing Office, 1993.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1926.1101. Washington DC. US Government Printing Office, 1986.

Code of Federal Regulations. Occupational Safety and Health Standards. Protection of Environment. Title 40, Part 761. Washington DC: US Government Printing Office, 1989.

Code of Federal Regulations. National Emission Standard for Hazardous Air Pollutants (NESHAP), Asbestos Regulations. Title 40, Part 61 Subpart M. Washington DC: US Government Printing Office, July 1991.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 58.1. Solid Waste Management Control

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 501, Asbestos Requirements.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 502, Asbestos-Containing Materials in Schools.

State of Hawaii, Title 11, Hawaii Administrative Rules, Department of Health, Chapter 504, Asbestos Abatement Certification Program.

US Department of Housing and Urban Development. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing. May 1996

9.0 Glossary

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

*ft*²: square foot

mg/kg: milligrams per kilogram

ACM: Asbestos-Containing Materials.

CFR: Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.

CMU: Concrete Masonry Unit.

DOH: State of Hawaii, Department of Health is the division of the state government responsible for the oversight and care of matters relating to public health.

EPA: Environmental Protection Agency is the federal agency established to coordinate programs aimed at reducing pollution and protecting the environment.

Friability (N/NF): (F) Friable, or (NF) Non-friable

HAR: Hawaii Administrative Rules are rules and regulations issued by state executive branch agencies. The procedure for administrative rules is set by Hawaii Revised Statutes Chapter 91.

Lead-Containing: OSHA considers a paint to be lead-containing if there are any detectable levels of lead in the paint.

MRL: Method Reporting Limit

MRL for lead air is 5ug

MRL for lead wipe is 10ug

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample

NAD: No Asbestos Detected

NIOSH: National Institute for Occupational Safety and Health is the primary federal agency conducting research and making recommendations for the safety and health of the workers.

OSHA: Occupational Safety and Health Administration is the federal department responsible for promoting the working conditions of employed citizens in the United States.

PEL: Permissible Exposure Limit is the OSHA time-weighted average threshold limit a person working an 8-hour shift can be exposed to a chemical without suffering ill effects.

Type: Type of asbestos material – surfacing (S), thermal system insulation (TSI), and miscellaneous (M).

Section 10.0

Photo Log

Photo Log
Seven homes on the Big Island of Hawai'i
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192
MEC Project No.: 2022-0034



Photo No. 1:
Front view of the Home



Photo No. 2: Under Overhang

Lead-containing green paint on wood exterior beams, walls, window frame and door trim.



Photo No. 3: Outside the house

Roof was corrugated roofing, had no mastic and was factory painted.

Lead-containing white paint on wood wall.



Photo No. 4: Hallway

Arsenic-containing and lead-containing white paint on compressed board.

White compressed board was not asbestos-containing.

Section 11.0
Homogeneous Area
and
Sample Location Plan



Site Location Map
MEC Project No.: 2022-0034

Drawing No: HZ-1

Page 1 of 6

SITE LOCATION:
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-
025:192



Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823



2022-0034-A132		
White caulking		N

2022-0034-A134		
White caulking		N

2022-0034-A119		
Brown caulking/white paint		N
White caulking/white paint		N

2022-0034-A128		
Tan drywall/white paint		N

2022-0034-A118		
Brown caulking/white paint		N
White caulking/white paint		N

2022-0034-A129		
White drywall		N
White texture/white paint		N

2022-0034-A130		
White drywall		N
White texture/white paint		N

2022-0034-A131		
White drywall		N
White texture/white paint		N

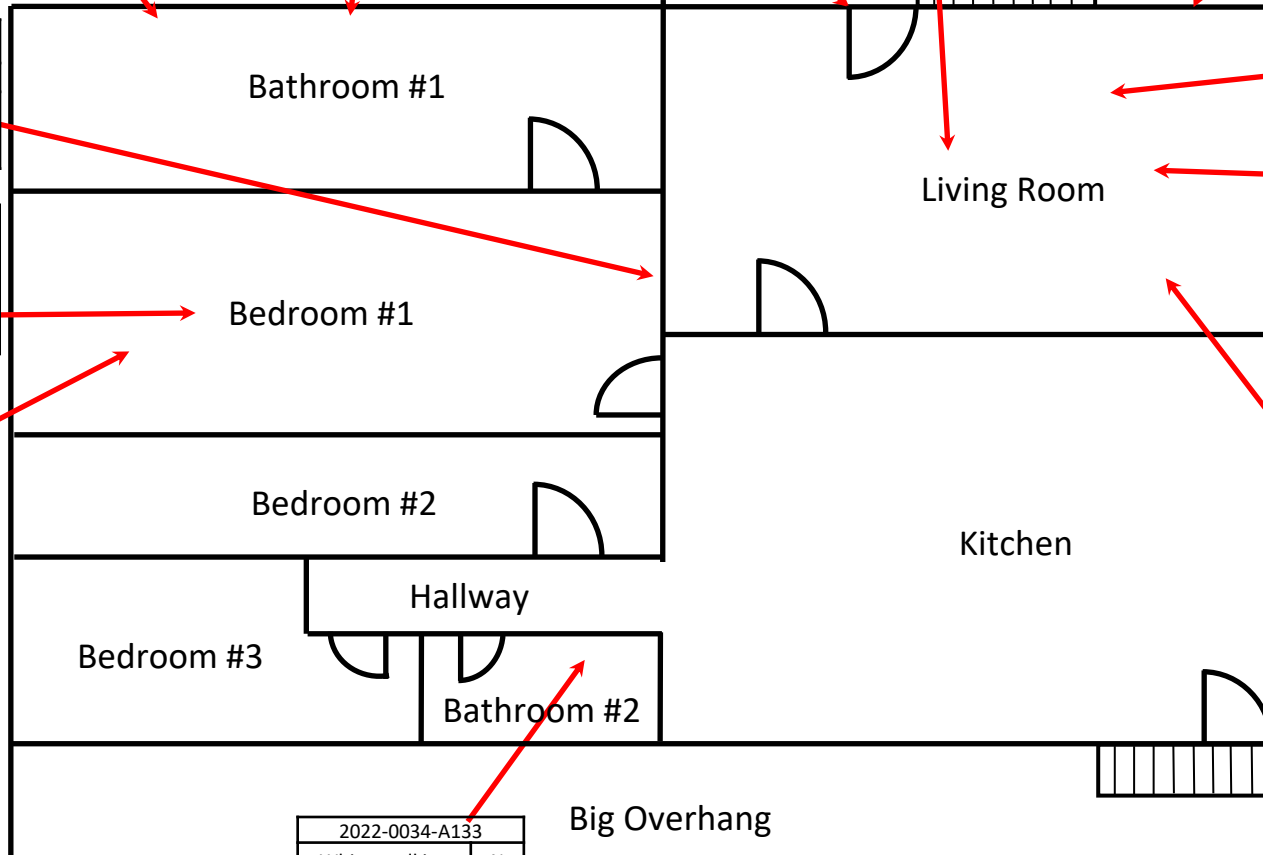
2022-0034-A123,A124,A125		
White drywall		N
White joint compound/white paint		N

2022-0034-A126,A127		
Tan drywall/white paint		N

2022-0034-A117		
Brown caulking/white paint		N
White caulking/white paint		N

2022-0034-A120,A121,A122		
Brown caulking/white paint		N
White caulking/white paint		N

2022-0034-A133		
White caulking		N



Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A117-134
MEC Project No.: 2022-0034

Drawing No: HZ-2

Page 2 of 6

SITE LOCATION:
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192



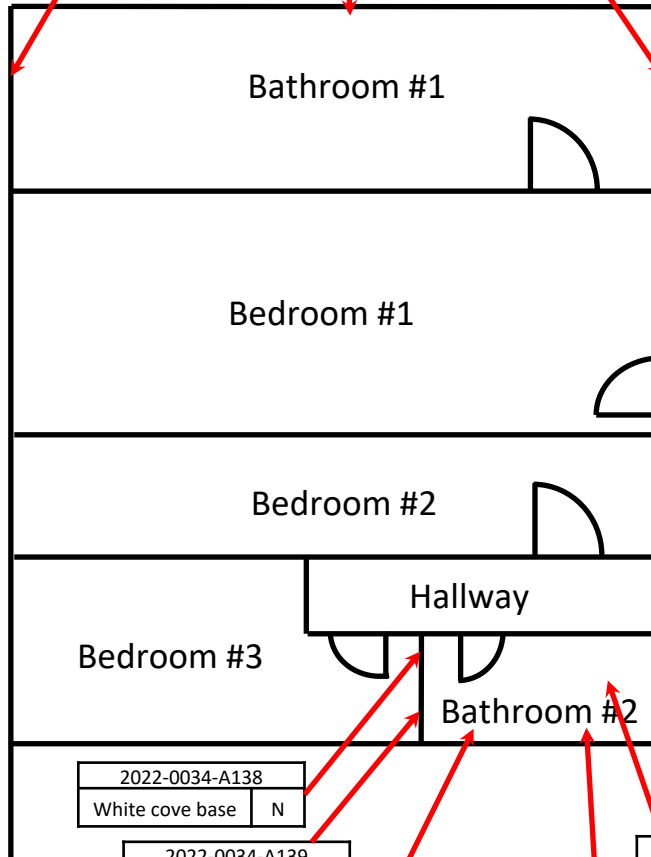
Muranaka Environmental Consultants, Inc.
P.O. Box 4341 Honolulu, HI 96812
Ph: (808) 845-8822 Fax: (808) 845-8823



2022-0034-A135		
Beige mastic		N
White cove base		N

2022-0034-A136		
Beige mastic		N
White cove base		N

2022-0034-A137		
Beige mastic		N
White cove base		N



2022-0034-A120,A121,A122		
Pink insulation		N
Silver wrap/black tar		N

Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

2022-0034-A138		
White cove base		N

2022-0034-A139		
White cove base		N

2022-0034-A141		
White floor tile		N

2022-0034-A142		
White floor tile		N

2022-0034-A140		
White cove base		N

2022-0034-A143		
White floor tile		N

Big Overhang

Sketch Not to Scale

Asbestos Sample Location Plan
Samples A135-143
MEC Project No.: 2022-0034

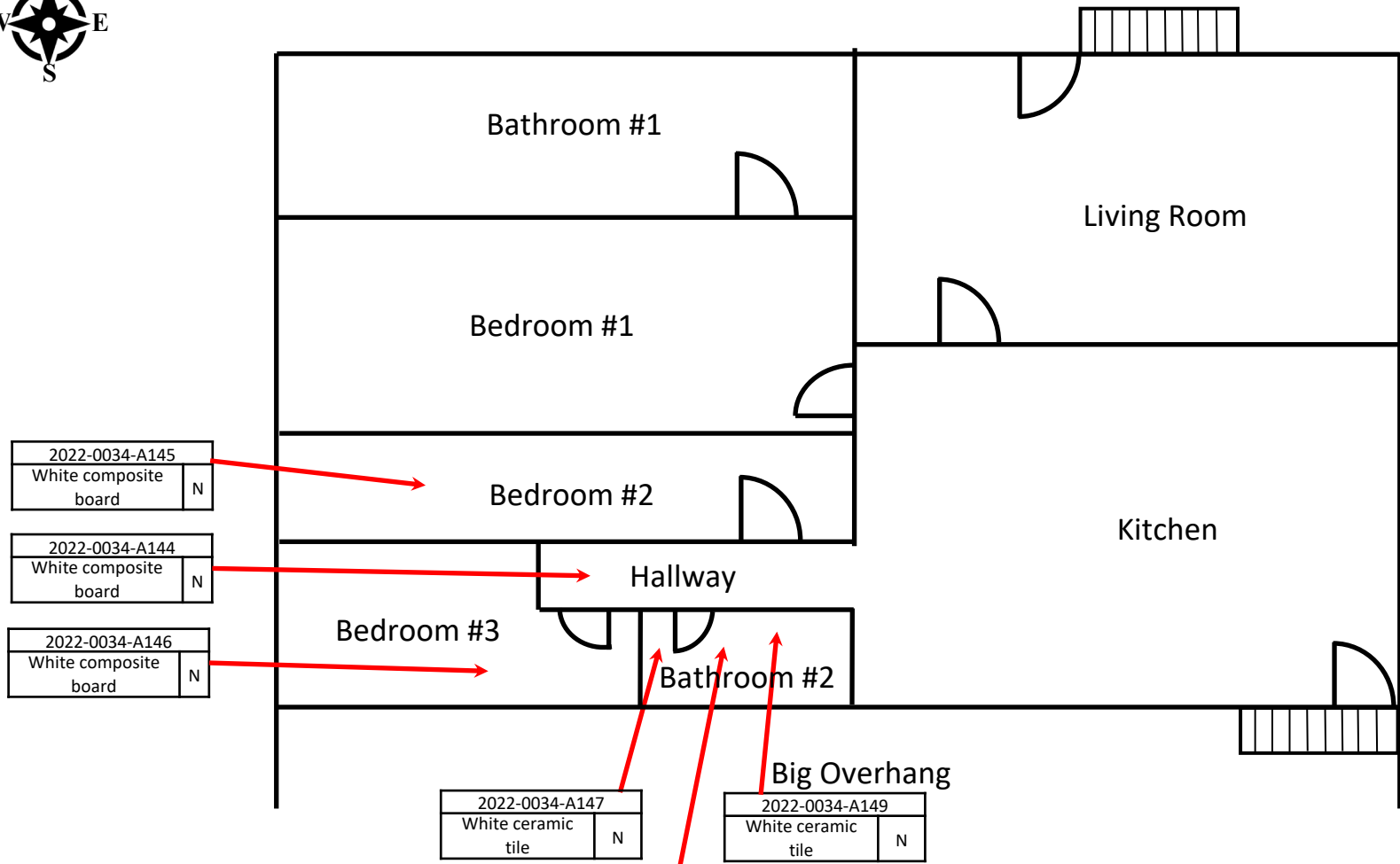
Drawing No: HZ-3

Page 3 of 6

SITE LOCATION:
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192



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Legend:

Sample Number	
Sample Material	Asbestos Containing? Y/N

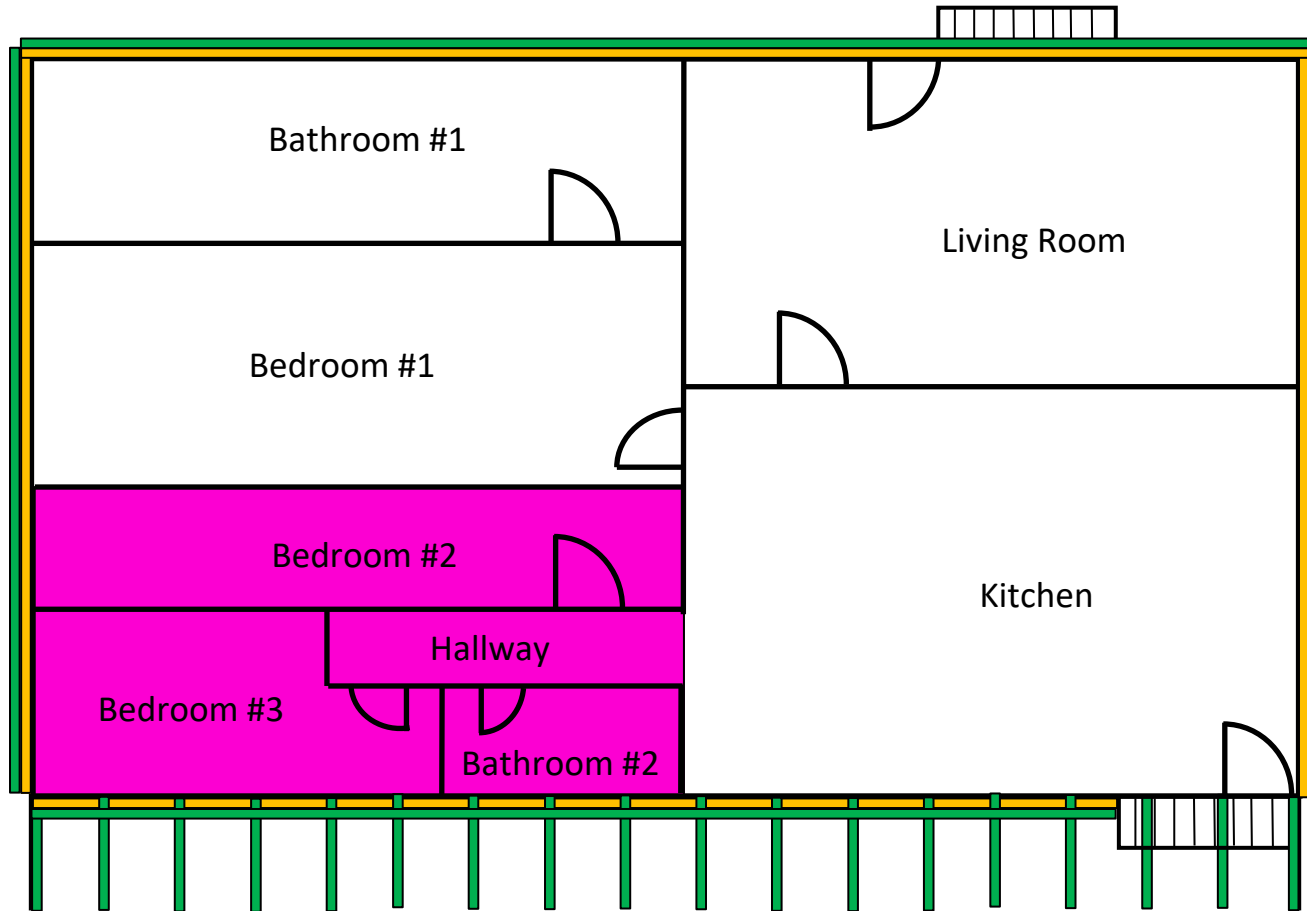
Sketch Not to Scale

Asbestos Sample Location Plan
Samples A144-149
MEC Project No.: 2022-0034




SITE LOCATION:
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-
025:192



Muranaka Environmental Consultants, Inc.
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Legend:

-  Green paint on wood exterior walls
-  White paint on wood walls
-  White painted ceiling on compressed board

Big Overhang

Sketch Not to Scale

Lead Homogeneous Area Plan
MEC Project No.: 2022-0034

SITE LOCATION:
1420 Auwae Road Lot No. 70B, TMK (3) 2-1-
025:192



Muranaka Environmental Consultants, Inc.
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2022-0034-L54		
White paint on fiberboard ceiling	N	

2022-0034-L53		
White paint on drywall ceiling	N	

2022-0034-L52		
White paint on compressed board ceiling (arsenic-containing)	Y	

2022-0034-L51		
White paint on drywall wall	N	

Legend:

Sample Number		
Sample Description	Lead Containing?	
	Y/N	

Note: Red, bold text indicates lead-containing


* - Lead-based

2022-0034-L48		
Green paint on wood window trim	Y	

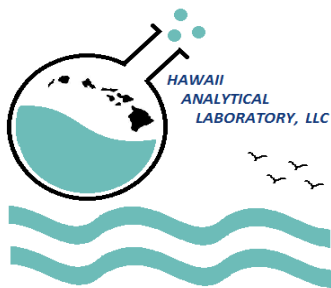
2022-0034-L49		
White paint on wood walls	Y	

2022-0034-L50		
White paint on door	N	

Sketch Not to Scale

Lead Sample Location Plan Right side of house, Samples L48-L54 MEC Project No.: 2022-0034		SITE LOCATION: 1420 Auwae Road Lot No. 70B, TMK (3) 2-1-025:192	 Muranaka Environmental Consultants, Inc. P.O. Box 4341 Honolulu, HI 96812 Ph: (808) 845-8822 Fax: (808) 845-8823
Drawing No: HZ-6	Page 6 of 6		

Section 12.0
Laboratory Data
and
Chain of Custody Documentation



Hawaii Analytical Laboratory ANALYTICAL REPORT

Tuesday, March 1, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213542	2022-0034-A117 Caulking Window and Door Frame Exterior		NONE DETECTED		None detected		Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>Brown caulk / white paint</u>							
	Comments							
202213542	2022-0034-A117 Caulking Window and Door Frame Exterior		NONE DETECTED		Cellulose (undulose)	2	Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>White caulk / white paint</u>							
	Comments							
202213543	2022-0034-A118 Caulking Window and Door Frame Exterior		NONE DETECTED		None detected		Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>Brown caulk / white paint</u>							
	Comments							
202213543	2022-0034-A118 Caulking Window and Door Frame Exterior		NONE DETECTED		Cellulose (undulose)	2	Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>White caulk / white paint</u>							
	Comments							
202213544	2022-0034-A119 Caulking Window and Door Frame Exterior		NONE DETECTED		None detected		Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>Brown caulk / white paint</u>							
	Comments							
202213544	2022-0034-A119 Caulking Window and Door Frame Exterior		NONE DETECTED		Cellulose (undulose)	2	Calcite + binder + paint	2/28/2022
	<u>Layer</u> <u>White caulk / white paint</u>							
	Comments							

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 3 – 20200630

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Phone Number: (808)845-8822
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Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213545	2022-0034-A120 Insulation Interior Front Room		NONE DETECTED		Fibrous glass (amorphous)	> 99 None detected	2/25/2022
	<u>Layer</u> <u>Pink insulation</u>						
	Comments						
202213545	2022-0034-A120 Insulation Interior Front Room		NONE DETECTED		Cellulose (undulose)	50 Foil + tar	2/25/2022
	<u>Layer</u> <u>Silver wrap / black tar</u>						
	Comments						
202213546	2022-0034-A121 Insulation Interior Front Room		NONE DETECTED		Fibrous glass (amorphous)	> 99 None detected	2/25/2022
	<u>Layer</u> <u>Pink insulation</u>						
	Comments						
202213546	2022-0034-A121 Insulation Interior Front Room		NONE DETECTED		Cellulose (undulose)	50 Foil + tar	2/25/2022
	<u>Layer</u> <u>Silver wrap / black tar</u>						
	Comments						
202213547	2022-0034-A122 Insulation Interior Front Room		NONE DETECTED		Fibrous glass (amorphous)	> 99 None detected	2/25/2022
	<u>Layer</u> <u>Pink insulation</u>						
	Comments						
202213547	2022-0034-A122 Insulation Interior Front Room		NONE DETECTED		Cellulose (undulose)	50 Foil + tar	2/25/2022
	<u>Layer</u> <u>Silver wrap / black tar</u>						
	Comments						
202213548	2022-0034-A123 Drywall Ceiling Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	2/25/2022
	<u>Layer</u> <u>White drywall</u>						
	Comments						
202213548	2022-0034-A123 Drywall Ceiling Interior Front Room		NONE DETECTED		None detected	Calcite + quartz + paint	2/25/2022
	<u>Layer</u> <u>White joint compound / white paint</u>						
	Comments						

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Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
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Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213549	2022-0034-A124 Drywall Ceiling Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213549	2022-0034-A124 Drywall Ceiling Interior Front Room		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White joint compound / white paint</u>							
Comments								
202213550	2022-0034-A125 Drywall Ceiling Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213550	2022-0034-A125 Drywall Ceiling Interior Front Room		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White joint compound / white paint</u>							
Comments								
202213551	2022-0034-A126 Fiber Board Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/25/2022
<u>Layer</u>	<u>Tan drywall / white paint</u>							
Comments								
202213552	2022-0034-A127 Fiber Board Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/25/2022
<u>Layer</u>	<u>Tan drywall / white paint</u>							
Comments								
202213553	2022-0034-A128 Fiber Board Interior Front Room		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	2/25/2022
<u>Layer</u>	<u>Tan drywall / white paint</u>							
Comments								

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Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213554	2022-0034-A129 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213554	2022-0034-A129 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>							
Comments								
202213555	2022-0034-A130 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213555	2022-0034-A130 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>							
Comments								
202213556	2022-0034-A131 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		Cellulose (undulose)	15	Gypsum	2/25/2022
<u>Layer</u>	<u>White drywall</u>							
Comments								
202213556	2022-0034-A131 Texture Wall Ceiling Interior Bedroom		NONE DETECTED		None detected		Calcite + quartz + paint	2/25/2022
<u>Layer</u>	<u>White texture / white paint</u>							
Comments								
202213557	2022-0034-A132 Caulking Interior Bathrooms		NONE DETECTED		None detected		Binder + other	2/25/2022
<u>Layer</u>	<u>White caulk</u>							
Comments								
202213558	2022-0034-A133 Caulking Interior Bathrooms		NONE DETECTED		None detected		Binder + other	2/25/2022
<u>Layer</u>	<u>White caulk</u>							
Comments								

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Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213559	2022-0034-A134 Caulking Interior Bathrooms		NONE DETECTED		None detected		Binder + other	2/25/2022
	<u>Layer</u> <u>White caulk</u>							
	Comments							
202213560	2022-0034-A135 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>							
	Comments							
202213560	2022-0034-A135 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>							
	Comments							
202213561	2022-0034-A136 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>							
	Comments							
202213561	2022-0034-A136 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>							
	Comments							
202213562	2022-0034-A137 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>							
	Comments							
202213562	2022-0034-A137 Cove Base Interior Bathroom 1		NONE DETECTED		None detected		Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>							
	Comments							
202213563	2022-0034-A138 Cove Base Interior Bathroom 2		NONE DETECTED		None detected		Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>							
	Comments							

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Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202213563	2022-0034-A138 Cove Base Interior Bathroom 2		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>						
	Comments						
202213564	2022-0034-A139 Cove Base Interior Bathroom 2		NONE DETECTED		None detected	Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>						
	Comments						
202213564	2022-0034-A139 Cove Base Interior Bathroom 2		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>						
	Comments						
202213565	2022-0034-A140 Cove Base Interior Bathroom 2		NONE DETECTED		None detected	Calcite + binder	2/25/2022
	<u>Layer</u> <u>Beige mastic</u>						
	Comments						
202213565	2022-0034-A140 Cove Base Interior Bathroom 2		NONE DETECTED		None detected	Vinyl	2/25/2022
	<u>Layer</u> <u>White covebase</u>						
	Comments						
202213566	2022-0034-A141 Tile Interior Bathroom 2		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	40 Calcite + vinyl + other	2/28/2022
	<u>Layer</u> <u>White sheet vinyl w/ paper backing</u>						
	Comments						
202213566	2022-0034-A141 Tile Interior Bathroom 2		NONE DETECTED		None detected	Quartz + binder	2/28/2022
	<u>Layer</u> <u>Yellow mastic</u>						
	Comments						
202213567	2022-0034-A142 Tile Interior Bathroom 2		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	40 Calcite + vinyl + other	2/28/2022
	<u>Layer</u> <u>White sheet vinyl w/ paper backing</u>						
	Comments						

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Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213567	2022-0034-A142 Tile Interior Bathroom 2		NONE DETECTED		None detected		Quartz + binder	2/28/2022
	<u>Layer</u> Yellow mastic							
	Comments							
202213568	2022-0034-A143 Tile Interior Bathroom 2		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	40	Calcite + vinyl + other	2/28/2022
	<u>Layer</u> White sheet vinyl w/ paper backing							
	Comments							
202213568	2022-0034-A143 Tile Interior Bathroom 2		NONE DETECTED		None detected		Quartz + binder	2/28/2022
	<u>Layer</u> Yellow mastic							
	Comments							
202213569	2022-0034-A144 Composite Board Interior Hallway BR 1&2 Bedroom 5		NONE DETECTED		Cellulose / wood fiber (undulose)	85	Paint + other	2/25/2022
	<u>Layer</u> Tan canec / white paint							
	Comments							
202213570	2022-0034-A145 Composite Board Interior Hallway BR 1&2 Bedroom 5		NONE DETECTED		Cellulose / wood fiber (undulose)	85	Paint + other	2/25/2022
	<u>Layer</u> Tan canec / white paint							
	Comments							
202213571	2022-0034-A146 Composite Board Interior Hallway BR 1&2 Bedroom 5		NONE DETECTED		Cellulose / wood fiber (undulose)	85	Paint + other	2/25/2022
	<u>Layer</u> Tan canec / white paint							
	Comments							
202213572	2022-0034-A147 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz	2/28/2022
	<u>Layer</u> Dark gray mortar							
	Comments							
202213572	2022-0034-A147 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz + mica	2/28/2022
	<u>Layer</u> Off-white plaster							
	Comments							

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Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213572	2022-0034-A147 Tile Interior Bathroom 2		NONE DETECTED		None detected		Ceramic + quartz	2/28/2022
	<u>Layer</u> <u>White ceramic tile</u>							
	Comments							
202213572	2022-0034-A147 Tile Interior Bathroom 2		NONE DETECTED		None detected		Quartz + calcite	2/28/2022
	<u>Layer</u> <u>White grout</u>							
	Comments							
202213573	2022-0034-A148 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz	2/28/2022
	<u>Layer</u> <u>Dark gray mortar</u>							
	Comments							
202213573	2022-0034-A148 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz + mica	2/28/2022
	<u>Layer</u> <u>Off-white plaster</u>							
	Comments							
202213573	2022-0034-A148 Tile Interior Bathroom 2		NONE DETECTED		None detected		Ceramic + quartz	2/28/2022
	<u>Layer</u> <u>White ceramic tile</u>							
	Comments							
202213573	2022-0034-A148 Tile Interior Bathroom 2		NONE DETECTED		None detected		Quartz + calcite	2/28/2022
	<u>Layer</u> <u>White grout</u>							
	Comments							
202213574	2022-0034-A149 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz	2/28/2022
	<u>Layer</u> <u>Dark gray mortar</u>							
	Comments							
202213574	2022-0034-A149 Tile Interior Bathroom 2		NONE DETECTED		None detected		Calcite + quartz + mica	2/28/2022
	<u>Layer</u> <u>Off-white plaster</u>							
	Comments							

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Lab Job No: 202201621
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Bulk Asbestos Determination

Sample No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202213574	2022-0034-A149 Tile Interior Bathroom 2		NONE DETECTED		None detected		Ceramic + quartz	2/28/2022
	<u>Layer</u> <u>White ceramic tile</u>							
	Comments							
202213574	2022-0034-A149 Tile Interior Bathroom 2		NONE DETECTED		None detected		Quartz + calcite	2/28/2022
	<u>Layer</u> <u>White grout</u>							
	Comments							

General Comments

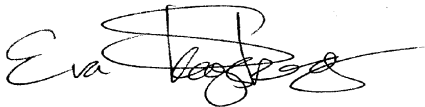
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (1 to 2%), 50% relative (3 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

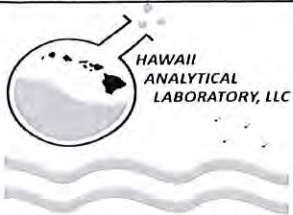
< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Eva Skogsberg
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
1420 Auwae Road
Special Instructions:
Also email leah@muranakaenvironmental.com

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201621

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A117	Caulking Window and Door Frame Exterior	2/16/22	Bulk		PLM		202213542
2022-0034-A118	Caulking Window and Door Frame Exterior	2/16/22	Bulk		PLM		202213543
2022-0034-A119	Caulking Window and Door Frame Exterior	2/16/22	Bulk		PLM		202213544
2022-0034-A120	Instalation Interior Front Room	2/16/22	Bulk		PLM		202213545
2022-0034-A121	Instalation Interior Front Room	2/16/22	Bulk		PLM		202213546
2022-0034-A122	Instalation Interior Front Room	2/16/22	Bulk		PLM		202213547
2022-0034-A123	Drywall Ceiling Interior Froomt Room	2/16/22	Bulk		PLM		202213548
2022-0034-A124	Drywall Ceiling Interior Froomt Room	2/16/22	Bulk		PLM		202213549
2022-0034-A125	Drywall Ceiling Interior Froomt Room	2/16/22	Bulk		PLM		202213550
2022-0034-A126	Fiber Board Interior Front Room	2/16/22	Bulk		PLM		202213551
2022-0034-A127	Fiber Board Interior Front Room	2/16/22	Bulk		PLM		202213552
2022-0034-A128	Fiber Board Interior Front Room	2/16/22	Bulk		PLM		202213553

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogberg

2/20/22 10:55am

*Sample description can be paint chips, concrete, specific sample collection location, etc....

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC ☐ via USPS ☐ via DHL ☐ via FedEx ☐ via pick up

awb#: 173



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☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
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Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
1420 Auwae Road

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Gordan Lewis HIASB-4949

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201621

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A129	Texture Wall Ceiling Interior Bedroom	2/16/22	Bulk		PLM		202213554
2022-0034-A130	Texture Wall Ceiling Interior Bedroom	2/16/22	Bulk		PLM		202213555
2022-0034-A131	Texture Wall Ceiling Interior Bedroom	2/16/22	Bulk		PLM		202213556
2022-0034-A132	Caulking Interior Bathrooms	2/16/22	Bulk		PLM		202213557
2022-0034-A133	Caulking Interior Bathrooms	2/16/22	Bulk		PLM		202213558
2022-0034-A134	Caulking Interior Bathrooms	2/16/22	Bulk		PLM		202213559
2022-0034-A135	Cove Base Interior Bathroom 1	2/16/22	Bulk		PLM		202213560
2022-0034-A136	Cove Base Interior Bathroom 1	2/16/22	Bulk		PLM		202213561
2022-0034-A137	Cove Base Interior Bathroom 1	2/16/22	Bulk		PLM		202213562
2022-0034-A138	Cove Base Interior Bathroom 2	2/16/22	Bulk		PLM		202213563
2022-0034-A139	Cove Base Interior Bathroom 2	2/16/22	Bulk		PLM		202213564
2022-0034-A140	Cove Base Interior Bathroom 2	2/16/22	Bulk		PLM		202213565

Relinquished By (Print and Sign)

Leah Barkai

Date/Time

2/16/22

Received By (Print and Sign)

Eva Skogsberg

Date/Time

2/20/22 10:55am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

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*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC

☐ via USPS

☐ via drop box

☐ via FedEx

☐ via pick up

awb#: 173-.....



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

Report To* : Mark Muranaka/Kyle Tanaka
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St., Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Report results to :
Email / Fax : mark.m@muranakaenvironmental.com

Invoice To* : Faye Yamaguchi
Company : Muranaka Environmental Consultants, Inc.
Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name: 1420 Auwae Road
Client Project No.: 2022-0034
Verbal results? ☐
Sampled By & Certif. # : Gordon Lewis HIASB-4949
Special Instructions: Also email leah@muranakaenvironmental.com
PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201621

Lab Sample(s) No.:

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-A141	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213566
2022-0034-A142	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213567
2022-0034-A143	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213568
2022-0034-A144	Composite Board Interior Hallway BR 1&2 Bedroom 5	2/16/22	Bulk		PLM		202213569
2022-0034-A145	Composite Board Interior Hallway BR 1&2 Bedroom 5	2/16/22	Bulk		PLM		202213570
2022-0034-A146	Composite Board Interior Hallway BR 1&2 Bedroom 5	2/16/22	Bulk		PLM		202213571
2022-0034-A147	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213572
2022-0034-A148	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213573
2022-0034-A149	Tile Interior Bathroom 2	2/16/22	Bulk		PLM		202213574

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogsberg

2/20/22 10:50 am

*Sample description can be paint chips, concrete, specific sample collection location, etc...

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☐ via HAC

☐ via USPS

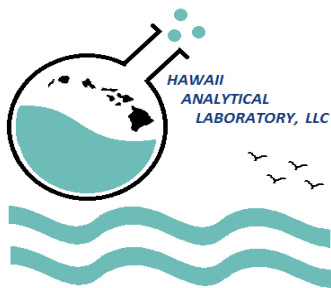
☒ via drop box

☐ via FedEx

☐ via pick up

awb#: 173-.....

Page: 5 of 5



Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, February 28, 2022

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201624
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213595	2022-0034-L48 Outside Paint - Beams, walls, window frame, door trim	1100	mg/kg	2/23/2022
Comments				
202213596	2022-0034-L49 Outside Paint	890	mg/kg	2/23/2022
Comments				
202213597	2022-0034-L50 Entry Door	< 40	mg/kg	2/23/2022
Comments				
202213598	2022-0034-L51 Inside Walls	< 40	mg/kg	2/23/2022
Comments				
202213599	2022-0034-L52 Ceiling- Compressed Board	310	mg/kg	2/23/2022
Comments				
202213600	2022-0034-L53 Ceiling Drywall	< 40	mg/kg	2/23/2022
Comments				
202213601	2022-0034-L54 Ceiling Fiber Board	< 40	mg/kg	2/23/2022
Comments				

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015

Mr. Mark Muranaka
Muranaka Environmental Consultants, Inc.
401 Waiakamilo Rd, Suite 101
Honolulu HI 96817

Phone Number: (808)845-8822
Facsimile: (808) 845-8823
Email: Mark.m@muranakaenvironmental.com

Lab Job No: 202201624
Date Submitted: 2/20/2022
Your Project: 2022-0034, 1420 Auwae Road, 2/16/22

Total Recoverable Arsenic (FAAS)

EPA Method: 3051m / 7000Bm

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202213599	2022-0034-L52 Ceiling- Compressed Board	2100	mg/kg	2/28/2022
Comments				
202213601	2022-0034-L54 Ceiling Fiber Board	< 40	mg/kg	2/28/2022
Comments				

All Quality Control data are acceptable unless otherwise noted.

MRL for lead air is 5ug.

MRL for lead wipe is 10ug.

MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

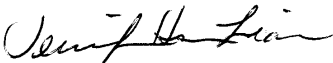
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

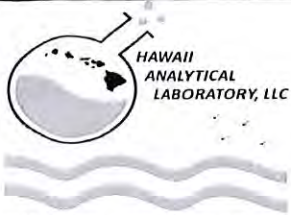
= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2005. AIHA is a NLLAP recognized accrediting body. Controlled doc.: Lead Report, rev. 3 – 20181015



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Ph: 808-735-0422 - Fax: 808-735-0047
https://analyzehawaii.com

☐ New Client?

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Email / Fax : mark.m@muranakaenvironmental.com

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Address* : 2850 Paa St. Suite 100B
Honolulu, HI 96819
Phone / Cell No.* : (808) 845-8822
Purchase Order No. :
Email Invoice To : faye@muranakaenvironmental.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Site/Project Name:
1420 Auwae Road

Client Project No.:
2022-0034

Verbal results?
☐

Sampled By & Certif. # :
Leah Barkai PB-1269

Special Instructions:
Also email leah@muranakaenvironmental.com

PLM POSITIVE STOP Instructions:

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.:

202201624

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
2022-0034-L48	Outside Paint- beams, walls, window frame, door trim	2/16/22	Bulk		Lead		202213595
2022-0034-L49	Outside Paint	2/16/22	Bulk		Lead		202213596
2022-0034-L50	Entry Door	2/16/22	Bulk		Lead		202213597
2022-0034-L51	Inside Walls	2/16/22	Bulk		Lead		202213598
2022-0034-L52	Ceiling-Compressed Board (test for arsenic too)	2/16/22	Bulk		Lead and arsenic	arsenic	202213599
2022-0034-L53	Ceiling- Drywall	2/16/22	Bulk		Lead		202213600
2022-0034-A54	Ceiling-Fiber Board (test for arsenic too)	2/16/22	Bulk		Lead and arsenic	arsenic	202213601

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Leah Barkai

2/16/22

Eva Skogsberg

2/20/22 11:05am

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awb#: 173-.....

Page: 5 of 5

Vector Control Branch | Rodent Program - Hawaii State ...

[Vector Control Branch \(hawaii.gov\)](http://hawaii.gov)

<https://health.hawaii.gov/vcb/rodents>

NEW: EFFECTIVE JULY 1, 2021

All persons, firms, or corporations with the intent of demolishing or clearing a site must inspect the premises of rodents and eradicate the rodents before the project begins. A “[Notice for Demolition or Land Clearing Abatement Inspection](#)” should be filled and submitted to the Department of Health.

Refer to [memorandum](#) for full details.

VECTOR CONTROL BRANCH

HAWAII (HILO)

1582 Kamehameha Ave.
Hilo, HI 96720
Phone: (808) 974-4238
Fax: (808) 933-0400

HAWAII (KONA)

79-1020 Haukapila St. #115
Kealahou, HI 96750
Phone: (808) 322-1509
Fax: (808) 322-1511

KAUAI

4398 Pua Loke St. #B
Lihue, HI 96766
Phone: (808) 241-3306
Fax: (808) 241-3566

MAUI

641 Mua St.
Kahului, HI 96732
Phone: (808) 873-3560
Fax: (808) 873-3561



OAHU

99-945 Halawa Valley St.
Aiea, HI 96701
Phone: (808) 586-4708
Fax: (808) 586-4722

The certification of rodent prevention and inspection is a **necessary step required by the city building department**. This inspection ensures that the property that is being torn down is void of rodents before demolition of structures. The inspection needs to be done within 3 days of tear-down.

If there's a mouse in your house or a rat in your yard, you are not the only one. Warmer weather directly influences the rate at which rodents reproduce; and with rampant construction projects throughout our region, their populations are being displaced and they are looking to relocate.

Rats and mice are notorious for causing all manner of problems if they're able to break into a home. Costly damages to roofing, insulation, siding and other areas are just the tip of the iceberg. Beyond direct damage, they're also known to carry a host of diseases that can be spread both

through the biological elements they leave behind (hair, urine, droppings), as well as by contaminating any food items they come into contact with.

While Hawaii homeowners should always be wary of rodent invaders, the threat increases exponentially once fall arrives. When the weather begins to cool, rodents are pushed indoors to find food, water, and shelter from the cold; unfortunately, your home contains all three.

1. Initial Inspection

You'll never be able to fully defend your home from rodent invaders if you can't be certain what's going on inside it, so our first step is always to perform a thorough inspection of the home and seek out the source not just the symptoms of your rodent problem. Your pest control technician will investigate both the interior and exterior of your home, paying close attention to any signs of rodent activity or potential entry points.

2. Sealing Entry Points*

With the home inspected and the threat understood, the next best step is always to seal off the home completely so that more rodents can't get inside. Your technician will use the best tools in the industry (including caulks, wire meshes, and expanding foams) to seal off any gaps that rats, mice, and other pests could be using to get in and out. They will also make you aware of any more substantial structural issues observed.

3. Treatment

Your pest control technician will use a combination of products and devices placed in strategic yet discreet areas in your home to physically trap these pesky rodent invaders and monitor for activity. Tamper-resistant bait stations may also be used inside or along the exterior of the home to responsibly introduce bait to these trespassing rodents and eliminate them quickly and efficiently.

4. Follow-Up

We won't leave you hanging. Your technician will return within 7-14 days from your initial visit to re-inspect and check all of the trapping and monitoring devices, remove any rodents, and retreat as necessary. Depending on the severity of the infestation, your technician may recommend another return visit. And of course, anytime you need us in between your scheduled visits, during your guarantee period, the technician will come back at no charge.
