

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Klamath River Renewal Corporation

Project No. 14803-001

**LICENSE SURRENDER ORDER
LOWER KLAMATH PROJECT**

Waste Disposal and Hazardous Materials Management Plan

December 2022

PUBLIC VERSION



**Lower Klamath Project
FERC Project No. 14803**

**Waste Disposal and
Hazardous Materials
Management Plan**

**Klamath River Renewal Corporation
2001 Addison Street, Suite 317
Berkeley, CA 94704**

December 2022

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1.0 Introduction

The Lower Klamath Project (FERC No. 14803) consists of four hydroelectric developments on the Klamath River: J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate (Figure 1-1). Specifically, the reach between J.C. Boyle Dam and Iron Gate Dam is known as the Hydroelectric Reach. In September of 2016, the Renewal Corporation filed an *Application for Surrender of License for Major Project and Removal of Project Works*, FERC Project Nos. 2082-063 & 14803-001 (License Surrender). The Renewal Corporation filed the License Surrender Application as the dam removal entity for the purpose of implementing the Klamath River Hydroelectric Settlement (KHSa). In November of 2020, the Renewal Corporation filed its Definite Decommissioning Plan (DDP) as Exhibits A-1 and A-2 to its Amended License Surrender Application (ALSA). The DDP is the Renewal Corporation's comprehensive plan to physically remove the Project and achieve a free-flowing condition and volitional fish passage, site remediation and restoration, and avoidance of adverse downstream impacts (Proposed Action). In November 2022, the Commission approved the ALSA and issued the License Surrender Order (LSO) approving facility removal and habitat restoration.

The Proposed Action includes the deconstruction of the J.C. Boyle Dam and Powerhouse (Figure 1-2), Copco No. 1 Dam and Powerhouse (Figure 1-3), Copco No. 2 Dam and Powerhouse (Figure 1-4), and Iron Gate Dam and Powerhouse (Figure 1-5), as well as associated features. Associated features vary by development, but generally include powerhouse intake structures, embankments and sidewalls, penstocks and supports, decks, piers, gatehouses, fish ladders and holding facilities, pipes and pipe cradles, spillway gates and structures, diversion control structures, aprons, sills, tailrace channels, footbridges, powerhouse equipment, distribution lines, transmission lines, switchyards, original cofferdams, portions of the Iron Gate Fish Hatchery, residential facilities, and warehouses. Facility removal will be completed within an approximately 20-month period.

This Waste Disposal and Hazardous Materials Management Plan describes measures to manage the disposal of solid and hazardous wastes that the Renewal Corporation will implement as part of the Proposed Action. The Renewal Corporation prepared 16 Management Plans to implement the DDP, and the Commission reviewed and approved these plans as conditions of its License Surrender Order. These Management Plans were developed in consultation with federal, state and county governments and tribes. Additional consultation with Siskiyou County will be conducted.

The LSO Ordering Paragraph (W) approves the Waste Disposal and Hazardous Materials Management Plan as filed on December 14, 2021. The Renewal Corporation now submits limited modifications to this approved plan as stated in Table 2-2. These modifications include refinement in means and methods due to further consultation with the Oregon Department of Environmental Quality and California State Water Resources Control Board pursuant to the requirements in Ordering Paragraphs (D) and (E), respectively. Table 2-2 herein shows the material modifications to the approved version of this Waste Disposal and Hazardous Materials Management Plan. An updated Consultation Record for the Waste Disposal and Hazardous

Materials Management Plan is included as Appendix E.

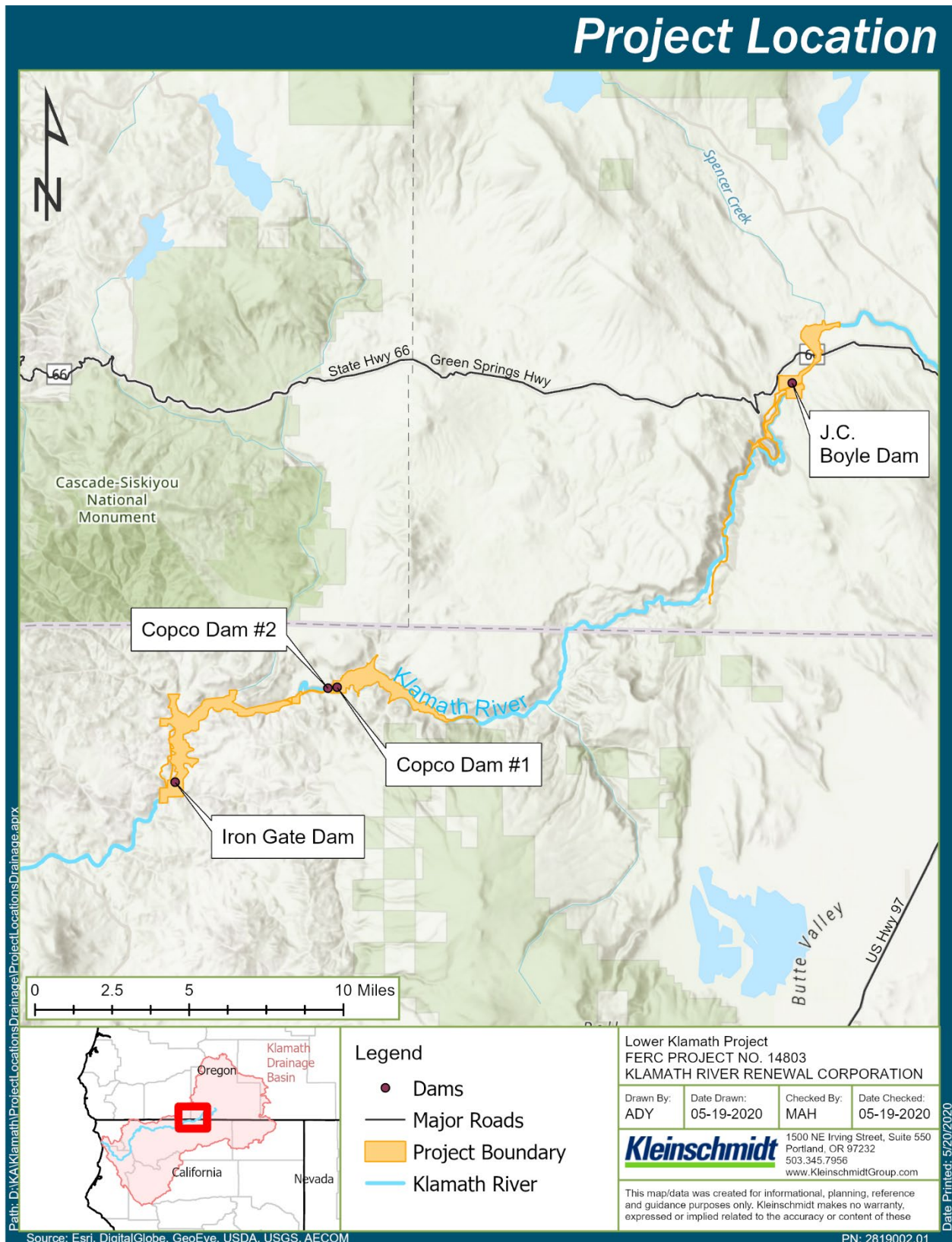


Figure 1-1. Lower Klamath Project Location

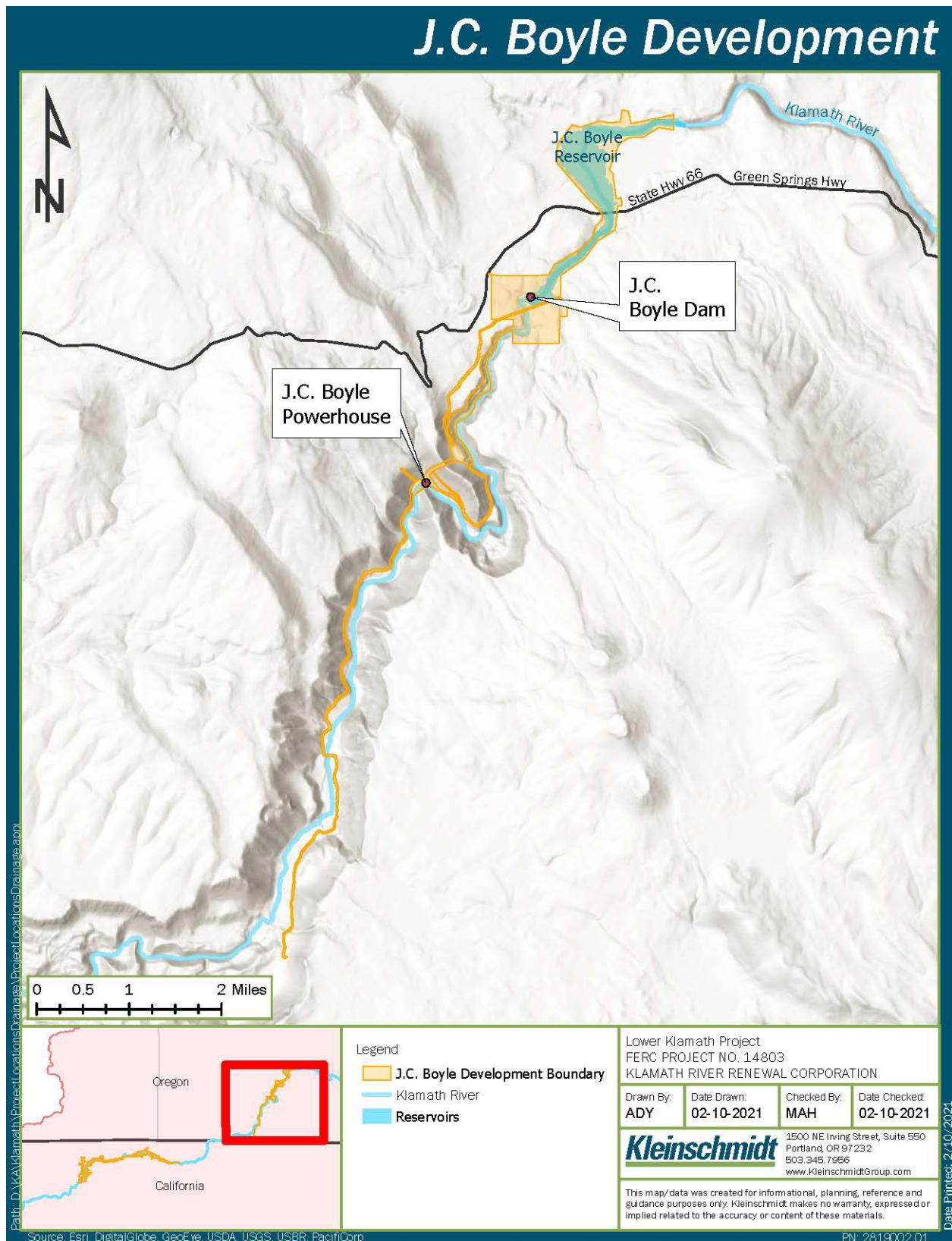


Figure 1-2. J.C. Boyle Development Facility Details

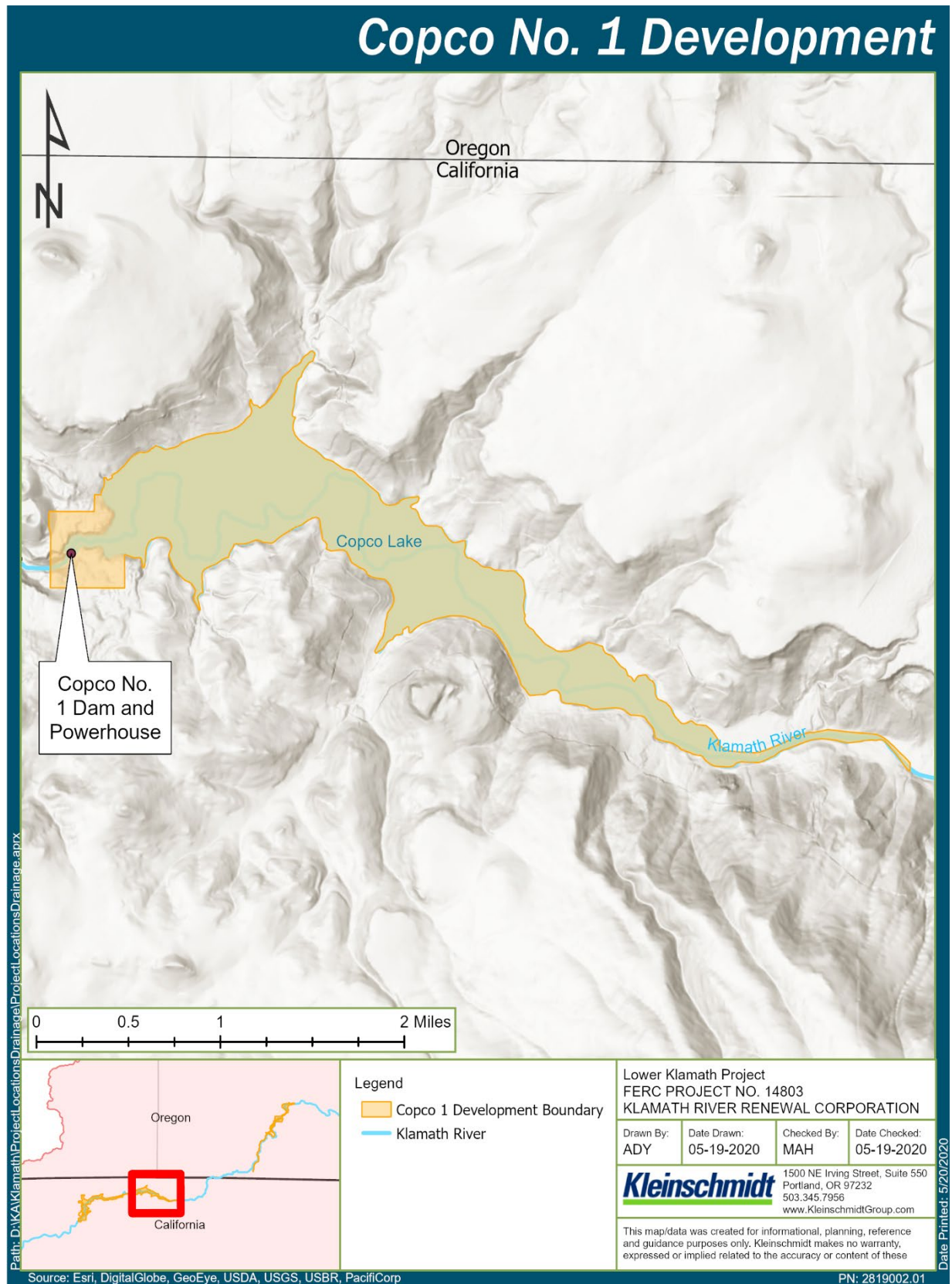


Figure 1-3. Copco No.1 Development Facility Details

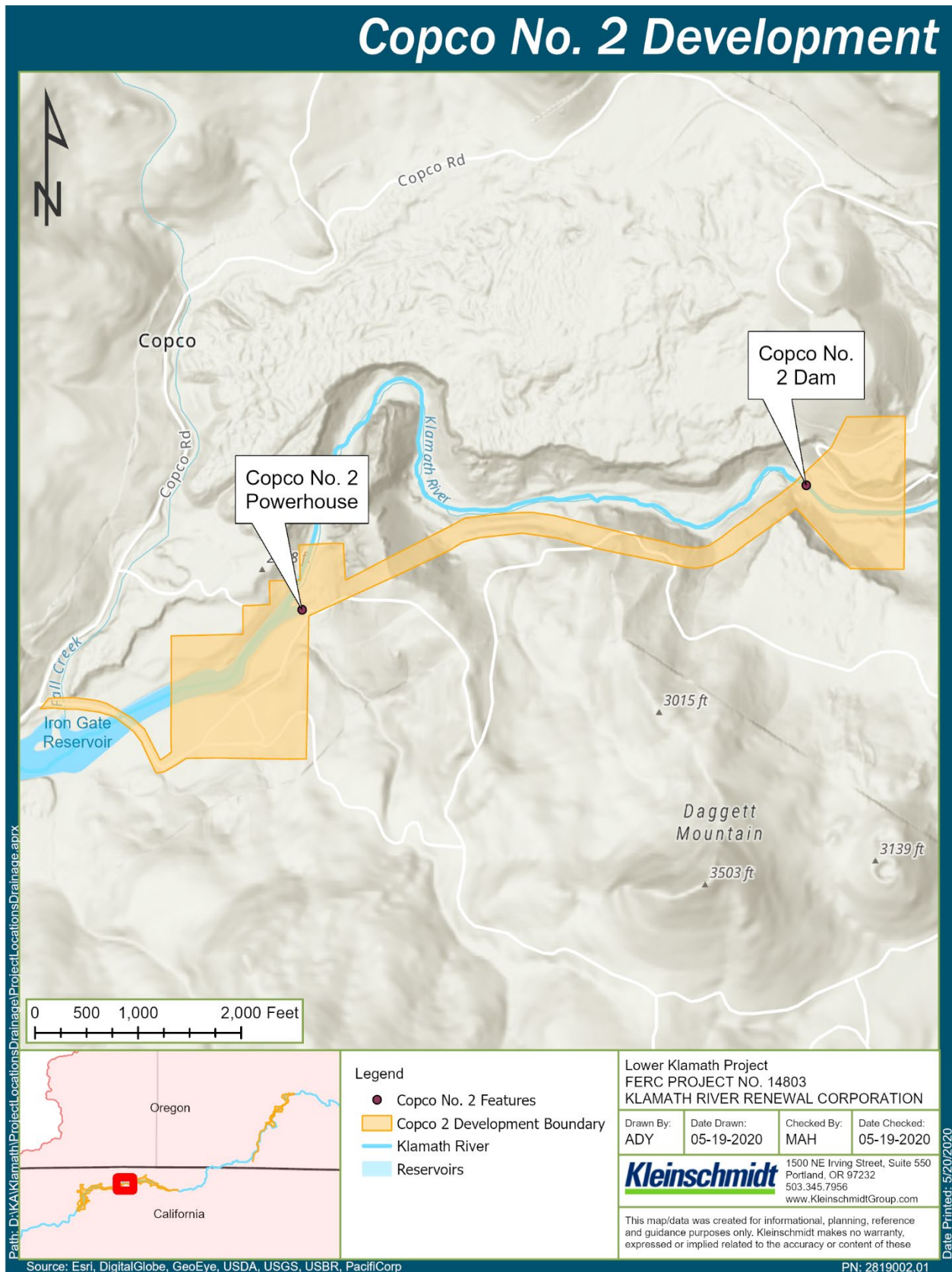


Figure 1-4. Copco No.2 Development Facility Details

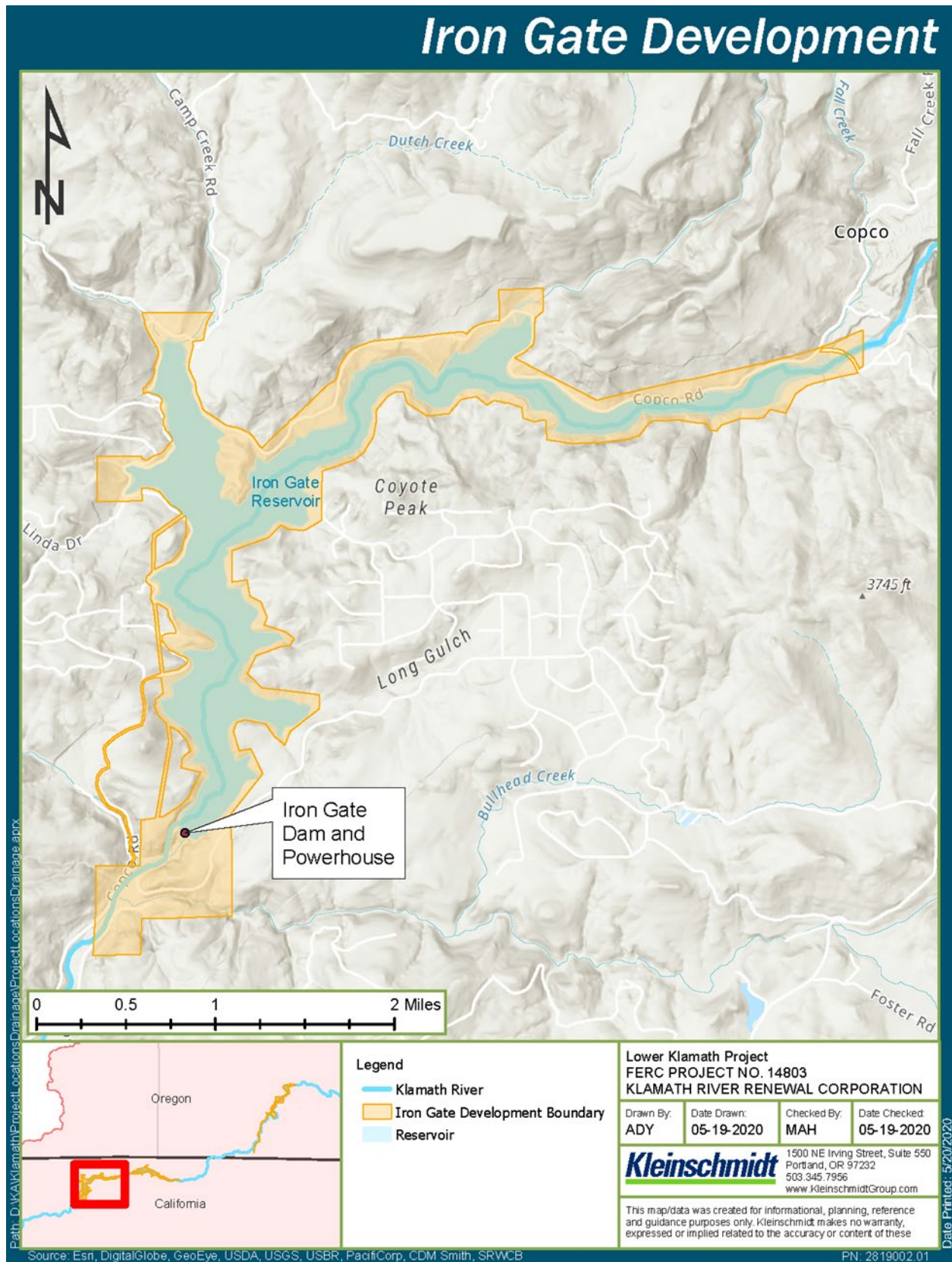


Figure 1-5. Iron Gate Development Facility Details

2.0 Regulatory Components

As described in Table 2-1, the Waste Disposal and Hazardous Materials Management Plan is one of 16 Management Plans implementing the DDP.

Table 2-1. Lower Klamath River Management Plans

1. Aquatic Resources Management Plan	9. Remaining Facilities Plan
2. Construction Management Plan	10. Reservoir Area Management Plan
3. Erosion and Sediment Control Plan	11. Reservoir Drawdown and Diversion Plan
4. Hatcheries Management and Operations Plan	12. Sediment Deposit Remediation Plan
5. Health and Safety Plan	13. Terrestrial and Wildlife Management Plan
6. Historic Properties Management Plan	14. Waste Disposal and Hazardous Management Materials Plan
7. Interim Hydropower Operations Plan	15. Water Quality Monitoring and Management Plan
8. Recreation Facilities Plan	16. Water Supply Management Plan

2.1 Organizational Structure

The Waste Disposal and Hazardous Materials Management Plan identifies measures that the Renewal Corporation will implement to manage hazardous wastes and solid wastes. These proposed measures are part of the Proposed Action. Specifically, the Waste Disposal and Hazardous Materials Management Plan includes an updated Consultation Record and four sub-plans, included amongst the Appendices identified below.

- Appendix A: California Hazardous Materials Management Plan
- Appendix B: California Waste Disposal Plan
- Appendix C: Oregon Waste Disposal and Hazardous Materials Management Plan
- Appendix D: Oregon Spill Prevention, Control, and Countermeasure Plan
- Appendix E: Consultation Record

2.2 Special Regulatory Interests

The following regulatory interests were considered in the development of the Waste Disposal and Hazardous Materials Management Plan:

- California Section 401 Water Quality Certification
- Oregon Section 401 Water Quality Certification

- California Department of Fish and Wildlife Memorandum of Understanding
- Oregon Memorandum of Understanding
- California Environmental Quality Act, Final Environmental Impact Report
- Federal Energy Regulatory Commission Final Environmental Impact Statement
- Federal Energy Regulatory Commission License Surrender Order

2.3 Modifications to the Approved Plan

The Renewal Corporation has modified the December 2021 version of this plan in the following material respects to comply with the November 17, 2022, License Surrender Order.

Table 2-2. Modifications to the Approved Plan

SUB-PLAN	MODIFICATIONS
Appendix A: California Hazardous Materials Management Plan	<ul style="list-style-type: none"> • The Renewal Corporation will update the hazardous waste surveys within six months of drawdown. • The Renewal Corporation will submit annual reports to the California State Water Resource Control Board reflecting final disposition of hazardous waste generated as part of the Proposed Action.
Appendix B: California Waste Disposal Plan	<ul style="list-style-type: none"> • No material modifications.
Appendix C: Oregon Waste Disposal and Hazardous Materials Management Plan	<ul style="list-style-type: none"> • Summarized sampling plan developed to address previously identified recognized environmental conditions.
Appendix D: Oregon Spill Prevention, Control, and Countermeasure Plan	<ul style="list-style-type: none"> • No material modifications.

2.4 Regulatory Approval

The Renewal Corporation will implement the Waste Disposal and Hazardous Materials Management Plan as approved by the Commission in the License Surrender Order. The Renewal Corporation will obtain and report to the Commission any required approvals from other agencies.

3.0 Reporting

By April 15 of each year, the Renewal Corporation will prepare and submit to the Commission an Annual Report which will include information pertaining to implementation of the Waste Disposal and Hazardous Materials Management Plan.

Appendix A

California Hazardous Materials Management Plan



**Lower Klamath Project
FERC Project No. 14803**

California Hazardous Materials Management Plan

**Klamath River Renewal Corporation
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**Prepared by:
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December 2022

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Appendix D	Iron Gate Development - Hazardous Materials Survey Report

1.0 Introduction

The California Hazardous Materials Management Plan is a subplan of the Waste Disposal and Hazardous Materials Management Plan that will be implemented as part of the Proposed Action for the Lower Klamath Project.

1.1 Purpose of Hazardous Materials Management Plan

The purpose of the California Hazardous Materials Management Plan is to state measures the Renewal Corporation (directly or through its contractor) will implement to manage hazardous waste and materials resulting from the Proposed Action for portions located in California. Specifically, the California Hazardous Materials Management Plan addresses hazardous waste and hazardous material transportation, storage, spill prevention, and release reporting. The Renewal Corporation proposes to handle, store, transport, treat and dispose of hazardous waste and hazardous material in accordance with applicable federal, state, and local law.

In addition, the California Hazardous Materials Management Plan states the measures the Renewal Corporation will implement to decommission existing septic tanks in accordance with the California State Water Resources Control Board (SWRCB) Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS) Policy.

1.2 Relationship to Other Management Plans

The California Hazardous Materials Management Plan is supported by elements of the following management plans for effective implementation: Health and Safety Plan and Emergency Response Plan. So as not to duplicate information, elements from these other management plans are not repeated herein but are, where appropriate, referred to in this California Hazardous Materials Management Plan.

2.0 Hazardous Waste Types

The following section categorizes various waste types consistent with applicable laws and specifies what constitutes a waste of that type.

2.1 RCRA Hazardous Waste

California's Department of Toxic Substance Control (DTSC) is the primary authority enforcing the Resource Conservation and Recovery Act (RCRA) hazardous waste requirements in California¹. A waste is considered RCRA hazardous waste if:

¹ In 1992, DTSC received authorization from the United States Environmental Protection Agency (U.S. EPA) to implement the Resource Conservation and Recovery Act (RCRA), Subtitle C requirements and the associated regulations.

1. It is not excluded or exempt from classification as a waste or a hazardous waste; and
2. It meets hazardous waste classification criteria including:
 - a. It exhibits any hazardous characteristic under applicable laws (ignitability, corrosivity, reactivity, or toxicity);
 - b. It is a “listed waste” appearing on one of four lists prepared and maintained by environmental agencies including Environmental Protection Agency (EPA) (the F, K, P and U lists); or
 - c. It is a mixture of a waste and one or more hazardous wastes. However, mixtures of wastes and hazardous wastes are not hazardous wastes, if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is authorized under either section 402 or section 307(b) of the Clean Water Act.

2.2 RCRA Characteristic Hazardous Wastes

A RCRA Characteristic hazardous waste is a solid waste that exhibits at least one of the four EPA assigned Waste Code Number and definitions presented below:

Flammability/Ignitability

A solid waste is ignitable if it has any of the following properties: (1) it is a liquid and has a flash point below 140 °F, (2) it is not a liquid and can cause fire through friction, absorption of moisture or spontaneous chemical changes and when ignited it burns so vigorously that it creates a hazard, (3) it is an ignitable compressed gas, and (4) it is an oxidizer.

Corrosivity

A solid waste is corrosive if it has any of the following properties: it is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5 or is a liquid and corrodes steel at a rate greater than 0.25 inches a year.

Reactivity

A solid waste is reactive if it has any of the following properties: (1) it is normally unstable and readily undergoes violent change without detonating, (2) it reacts violently with water, (3) it forms explosive mixtures with water, (4) when mixed with water it generates toxic gases, vapors, or fumes, (5) it is a cyanide or sulfide bearing waste, which when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes, (6) capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement, and (7) it is readily capable of detonation or explosive reaction at standard temperature.

Toxicity

A solid waste exhibits the characteristic of toxicity if it is equal to or exceeds the Toxicity Characteristic Leaching Procedure (TCLP) limit listed in 40 CFR 261.24 Table I – Maximum Concentration of Contaminants for the Toxicity Characteristic.

2.3 RCRA-Listed Hazardous Wastes

A RCRA Listed hazardous waste is a solid waste the EPA has determined to be hazardous waste. There are three categories of listed wastes:

1. Chemical products which are regulated as hazardous wastes when they are discarded commercial chemical products, off-specification species, container residues, and spill residues thereof (P and U waste codes listed materials).
2. Specific wastes from specific types of industrial processes (K waste code).
3. Wastes from non-specific types of industrial processes (F waste code).

2.4 Non-RCRA Hazardous Waste

The California EPA and DTSC regulate waste categories in addition to those that are regulated under RCRA. These wastes are characterized as non-RCRA hazardous wastes. The following are non-RCRA/California hazardous wastes:

- It is listed in or contains a constituent listed in Appendix X of 22 CCR §66261.
- It contains a substance listed in 22 CCR §66261.24 Table II or Table III at a concentration in milligrams per liter of waste extract above the Table value, as determined using the Waste Extraction Test (WET).
- It has an acute oral LD50 less than 2,500 milligrams per kilogram.
- It has an acute dermal LD50 less than 4,300 milligrams per kilogram.
- It has an acute inhalation LC50 less than 10,000 parts per million as a gas or vapor.
- It has an acute aquatic 96-hour LC50 less than 500 milligrams per liter (fish kill test).
- It contains any of the substances listed in 22 CCR 66261.24(a)(7) at a single or combined concentration equal to or exceeding 0.001 percent by weight.
- It has been shown through experience or testing to pose a hazard to human health or environment because of its carcinogenicity, acute toxicity, chronic toxicity, bioaccumulate properties or persistence in the environment.

2.4.1 Asbestos

Disturbance of any asbestos containing material (ACM) or asbestos containing construction material (ACCM) could generate airborne asbestos fibers and would be regulated by California agencies including Cal/OSHA. Cal/OSHA worker health and safety regulations apply during any disturbance of ACM or ACCM by a person while in the employ of another.

2.4.2 Lead

Disturbance of lead containing products or surfaces (which does not include remediating a lead hazard or specifically designed to remove lead-based paint (LBP) to reduce or eliminate a known hazard), would be considered lead related construction work.

2.5 Universal Waste

Universal wastes are hazardous wastes that are common to the workplace and pose a lower risk to people and the environment than other hazardous wastes. Types of waste streams regulated in California as universal wastes include the following:

- Batteries
- Electronic devices
- Mercury-containing equipment
- Lamps
- Cathode ray tubes (CRT)
- CRT glass
- Non-empty Aerosol cans

2.6 Used Oil

In California, used oil that contains or is contaminated with waste oil is conditionally regulated as hazardous wastes if it meets the definition of “Used Oil” even if it does not exhibit any of the characteristics of hazardous waste. Used oil may be required to be managed as a hazardous waste in California unless it has been recycled and is shown to meet specifications for recycled oil in or qualifies for a recycling exclusion. Other materials that contain or are contaminated with used oil may also be subject to regulation as “Used Oil” under applicable federal regulations.

2.7 Waste Characterization

To determine the manner in which waste is required to be handled, stored, treated, transported or disposed, the waste generator must perform waste characterization in accordance with applicable laws. Generally accepted methods of waste characterization in California include the following:

1. Testing or sampling the waste according to approved methods (Sampling & Analysis); or
2. Applying knowledge of the hazardous properties of the waste considering the materials or the processes used and the characteristics (Process Knowledge).

3.0 Hazardous Waste Surveys and Inventory

3.1 Surveys

The Renewal Corporation conducted surveys in 2019 to identify and quantify hazardous waste with potential to be generated from demolition of dams and associated structures that will be managed and disposed of as part of the Proposed Action.

Hazardous Building Material Surveys (HBMSs)
Copco No.1, Copco No. 2, and Iron Gate Developments
Prepared by AECOM, for the Renewal Corporation
April 2019

HBMSs were conducted in April 2019 at Copco No. 1, Copco No. 2, and Iron Gate Developments. The purpose of these surveys was to provide information regarding the presence of LBP containing coatings, PCB-containing light ballasts, PCB-containing caulking, mercury-containing sources, and the presence, location, and quantity of ACMs, for decommissioning planning. Hazardous materials identified as part of this survey are presented as part of the October 2020 surveys presented below.

Hazardous Materials Survey Reports (HMSs)
Copco No.1, Copco No. 2, and Iron Gate Developments
Prepared by Entek Consulting Group, Inc. for NV5
October 2020

HMSs were conducted in October 2020 at Copco No. 1, Copco No. 2, and Iron Gate Developments. The purpose of these surveys was to conduct a supplementary investigation to the April 2019 HBMSs. The October 2020 survey results include the April 2019 survey results. The inventory of hazardous materials is presented as tables in Appendix A. Since the HMSs reports are a compilation of the surveys conducted in 2019 and 2020, these reports are included as Appendix B and Appendix C respectively.

3.2 Inventory

Hazardous wastes with potential to be generated from demolition of dams and associated structures identified as part of the surveys are presented in the following tables within Appendix A. The Renewal Corporation will update the hazardous waste surveys within six months of issuance of the License Surrender Order.

- Table A-1.: Universal Waste Inventory
- Table A-2.: Non-RCRA Hazardous Waste
- Table A-3.: Characteristic Hazardous Waste Inventory

4.0 Hazardous Waste and Hazardous Material Management

4.1 Hazardous Waste Generator

As a likely generator or co-generator of hazardous waste, the Renewal Corporation (directly or through its contractor) will conduct waste characterization for solid waste streams associated with the Proposed Action at the time of generation in compliance with generally accepted waste characterization procedures under applicable laws. The Renewal Corporation (directly or through its contractor) will manage all wastes characterized as hazardous waste produced as part of the Proposed Action in accordance with applicable federal and state law.

4.2 Training Requirements

Personnel will be trained to handle hazardous waste and materials in compliance with applicable federal and state laws. The Health and Safety Plan states additional personnel training requirements relevant to the handling of hazardous waste and hazardous materials.

4.3 Personnel Safety

Please reference the Health and Safety Plan for guidelines on personnel health and safety when handling hazardous waste and materials. The Renewal Corporation has also developed an Emergency Response Plan for accidents involving personnel.

4.4 Storage

Hazardous waste and materials will be properly stored in compliance with applicable laws and managed to prevent spills or releases of hazardous substances and to prevent the mixing of incompatible waste streams until they can be properly disposed of in accordance with local, state, and federal regulations. Storage locations will be selected prior to implementing the Proposed Action and will be implemented in accordance with Siskiyou County Certified Unified Program Agencies (CUPA) regulations.

4.4.1 Hazardous Waste Storage

Hazardous waste will be stored prior to offsite transport and disposal in compliance with applicable laws and regulations, including rules governing waste generator pre-transport requirements and hazardous waste accumulation timelines.

4.4.2 Universal Waste Storage

Universal waste such as batteries, lamps, mercury containing equipment, electronics, cathode ray tubes (CRT), and CRT glass will be stored in compliance with applicable storage regulations and in a way that prevents releases of universal waste or component of a universal waste to the environment.

4.4.3 Used Oil

Used oil will be stored in accordance with applicable standards for management of used oil.

4.5 Transportation

Hazardous waste and materials will be transported in accordance with all local, state, and federal regulations.

4.5.1 Hazardous Waste and Materials Transportation

Hazardous waste and materials will be transported by a licensed hazardous waste transporter in accordance with applicable laws. Before being transported, waste and materials will be packaged, labeled, and marked in accordance with application requirements of governmental agencies. Hazardous waste transporters will obtain a completed and signed Uniform Hazardous Waste

Manifest. Hazardous waste and materials will be contained in an appropriate container when transported.

4.5.2 Universal Waste and Materials Transportation

Universal waste and materials will be transported by a universal waste handler, a package shipping service, a commercial carrier specializing in universal waste, or the operator of a hazardous waste destination facility that offers a universal waste pick-up service. The universal waste and material transporters will be responsible for appropriate notification, labeling, offsite storage, handling, and transportation of universal wastes subject to applicable laws and regulations.

4.5.3 Used Oil

Prior to transporting individual containers of used oil, the generator will label shipping containers for used oil. If transporting greater than 55-gallons, the used oil will be transported by a registered hazardous waste transporter using a hazardous waste manifest to an approved collection center.

4.6 Containment

Containment of hazardous wastes and materials will be managed in accordance with applicable local, state, and federal regulations.

4.6.1 Hazardous Waste and Material Containment

As discussed above, hazardous waste and materials will be stored in compliance with applicable laws and regulations, including rules governing waste generator pre-transport requirements and hazardous waste accumulation timelines.

Storage locations for hazardous waste and materials to be used in connection with the Proposed Action will include secondary containment units so that if a leak occurs, it will be contained and not allowed to enter the surrounding environment. If there is a fuel storage on-site, the containment will have a minimum volume of 120 percent of the volume of the largest container stored in that area. Secondary containment will be maintained, clean, and free of standing water.

Hazardous waste and materials will be stored and protected from rain and runoff to avoid contamination of soil or transfer to a water source. Along with utilizing the correct storage container, the Renewal Corporation will label, tag, or mark each substance with overall signage including the name of the substance, the hazard warning (e.g., corrosive, toxic, etc.), and the manufacturer's contact information. Hazardous waste and materials will be contained in an appropriate container when transported.

4.7 Reporting

The Renewal Corporation will submit annual reports to the SWB beginning in the drawdown year. The annual report will include the following information for the previous year:

- Location of final disposition of hazardous waste.
- Copies of hazardous waste manifests or instructions for accessing hazardous waste manifests from the California Environmental Reporting System database.

5.0 Spill Clean Up, Notification and Reporting Procedures

5.1 Clean Up Measures and Equipment

As discussed herein, the Proposed Action will take customary steps to avoid unauthorized spills, releases, or discharges of hazardous substances. A release includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of hazardous substances into the environment. Any unauthorized hazardous materials spill or release occurring as a result of the Proposed Action will be reported to appropriate governmental agencies in accordance with Section 5.2.

If hazardous substances are released by spilling from a container, a spill response kit will be utilized. Spill kits will be located near designated liquid storage areas. A spill response kit will be placed at facilities where construction activities are taking place and where hazardous materials are present or could potentially be present. The location of the spill response equipment will be determined prior to implementation of the Proposed Action.

This kit will include enough materials to clean up the quantity of hazardous materials present at a specific work location. Absorbent material will be placed on the spill and allowed to absorb the spilled material. The absorbent material will then be immediately disposed of in a properly labeled and sealed container. Subsurface (e.g., concrete slab, soil etc.) that may be affected by the spill will be evaluated and removed and placed in a separate container for disposal to the extent required by applicable environmental laws and under the oversight of responsible governmental agencies. Contaminated materials will be disposed of at an appropriate facility and documentation of this disposal will be included in the Manifest. Equipment will be used, as needed, to delineate the spill footprint and secure the area to prevent personnel and vehicles from entering and becoming endangered.

In the event of a spill or release of hazardous waste materials into the environment, testing will be performed to determine the level of response and abatement required. Monitoring of the spill site will continue until full abatement has been reached and if necessary, the details of the spill event and actions taken in response to the spill will be reported to the appropriate agencies and/or authorities.

5.2 Notification Process

Significant spills, releases, or threatened releases of hazardous materials must be immediately reported to the appropriate agencies. At a minimum, the Renewal Corporation will immediately provide the appropriate agencies with the magnitude, nature, time, date, location, and action taken for the spill or release. In the event of a hazardous waste release, notification will be given to the

agencies listed below. Agency contact information will be maintained and updated by the Renewal Corporation as construction activities progress.

CONTACT LIST

The Local Emergency Response Agency

9-1-1 or the local Fire Department

Department of Fish and Wildlife, Office of Spill Prevention and Response (CDFW)

P.O. Box 944209
Sacramento, CA 94244-2090
(916) 375-8580

Regional Water Quality Control Board (RWQCB)

(866) 792-4977

The California Governor's Office of Emergency Services.

(800) 852-7550 - California State Warning Center

Chemical Emergency Planning and Response Commission
c/o California Governor's Office of Emergency Services
Hazardous Materials Section
3650 Schriever Avenue
Mather, CA 95655
(916) 845-8754

The California Highway Patrol

9-1-1 - The California Highway Patrol must be notified for spills occurring on highways in the State of California (California Vehicle Code 23112.5).

National Response Center

(800) 424-8802 - If the spill equals or exceeds CERCLA Federal Reportable Quantities (RQ).

California Occupational Safety and Health Administration (Cal/OSHA) Modesto District Office

(209) 545-7310 - For all releases that result in serious injuries or harmful exposure to workers, contact the local Cal/OSHA office.

Department of Toxic Substances Control (DTSC)

(800) 260-3972 - For hazardous waste tank system releases, and secondary containment releases, contact the appropriate DTSC Regional Office (P.O. Box 806 Sacramento, CA 95812-0806).

Federal Energy Regulatory Commission

(415) 369-3318 - 100 First Street Suite 2300 San Francisco, CA 94105

5.3 Reporting Procedures

After a spill or release of hazardous waste or materials, immediate verbal emergency notification should be followed up as soon as possible with a Written Follow-Up Report. The specific circumstances for written reports are presented in Table 5-1.

Table 5-1. Agency Required Written Reports for Spill or Release

AGENCY	INCIDENT TYPE	REPORT TYPE/ FORM	TIME ALLOTMENT
California Office of Emergency Response	Spill exceeding RQ	Form 304	30 days
DTSC and to the EPA Region 10 Administration	Spill at Facility or Tank System that exceeds RQ	Written Report	30 days
Cal/OSHA	Serious injury or harmful exposure to workers	Written Report	Immediately
U.S. DOT	Transportation related incident	Written Report	Immediately

The federal Oil Pollution Prevention Regulation regulates the reporting requirements for Petroleum products. An oil spill meets the RQ when any of the following occur:

- Is on navigable waters
- Violates applicable quality standards
- Causes a film or “sheen” upon, or discoloration of the surface of the water or adjoining shoreline
- Causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- An oil spill or discharge of at least one barrel (55 gallons) of oil over a 24-hour period should be considered as a RQ.

6.0 Septic Tanks

Existing septic tanks associated with Project facilities will be decommissioned in place or removed and disposed of in accordance with Siskiyou County regulations. Decommissioned septic tanks will

be pumped and filled in place and the Renewal Corporation will contact the Siskiyou County Environmental Health representative to inspect the site after decommissioning. Septic tanks to remain will be subject to requirements specified in the Onsite Wastewater Treatment Systems (OWTS) Policy (State Water Board 2018). The facilities that require septic tank removal or decommissioning are presented in Table 6-1 with the number of tanks to be removed and the development where the facility is located.

Table 6-1 Facilities Requiring Septic Tank Removal

DEVELOPMENT	FACILITY	NO. OF SEPTIC TANKS
Copco 1	Copco No. 1 Main Dam Facilities	2
Copco 1	Copco Village	1
Copco 2	Copco No. 2 Control Center Building	1
Copco 2	Copco No. 2 East Village (5 Residences)	5
Copco 2	Copco No. 2 East Village Community Center	1
Copco 2	Copco No. 2 West Village (3 Residences)	3
Copco 2	Copco No. 2 West Village Community Center	1
Copco 2	Mallard Cove Recreation Area	1
Iron Gate	Restroom Facility	1
Iron Gate	Single Family Residence – North of Klamath River	1
Iron Gate	Main Office Facility	1
Iron Gate	South Hatchery Neighborhood (4 Residences)	4
Iron Gate	Fish Hatchery	1
Iron Gate	Juniper Point Recreation Area	1
Iron Gate	Mirror Cove Recreation Area	1
Iron Gate	Camp Creek Recreation Area	2

7.0 References

PacifiCorp. September 3, 2020 Hazardous Materials and Wastes Inventory Matrix Report.

Appendix A

Hazardous Materials and Waste Inventory

Table A-1. Universal Waste Inventory

Copco No. 1 Development Universal Hazardous Waste Inventory	
Universal Waste Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	34
Mercury-Containing fluorescent light tubes (8' length)	17
Suspect PCB containing light ballasts	23
Magnetic light ballasts	2
High Intensity Discharge (HID) Lamps	16
Mercury-containing switches, controls, and recorders	None Observed
PCB-Containing Transformer Oil	3 (Powerhouses)
Copco No. 2 Development Universal Hazardous Waste Inventory	
Universal Waste Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	96
Mercury-Containing fluorescent light tubes (8' length)	61
Magnetic light ballasts	107
HID Lamps	10
Iron Gate Development Universal Hazardous Waste Inventory	
Universal Waste Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	20
Mercury-Containing fluorescent light tubes (8' length)	10
Magnetic light ballasts	10
HID Lamps	6
Mercury-containing switches, controls, and recorders	None Observed
PCB-Containing Transformer Oil	Assumed present in Switchyard

Table A-2: Non-RCRA Hazardous Waste Facility Locations

Copco No. 1 Development Asbestos and/or Lead-Based Materials		
Facility	Asbestos	Lead
Dam - throughout mechanical equipment and on dam mules	✓	
Gatehouse - throughout mechanical equipment	✓	✓
Foundation of Former Residence	✓	
Powerhouse	✓	✓
Residence 1	✓	✓
Residence 2	✓	✓
Transite Piping	✓	
Groundwater Pump- House		✓
Maintenance Building		✓
Penstock (CC1PS)		✓
Powerhouse		✓
Residence Shed		✓
Copco No. 2 Development Asbestos and/or Lead-Based Materials		
Facility	Asbestos	Lead
Former Bunkhouse	✓	✓
Former School	✓	
Maintenance Building	✓	
Powerhouse	✓	✓
Residence 1	✓	
Residence 2	✓	
Residence 3	✓	✓
Residence 4	✓	✓
Residence 5	✓	✓
Residence 6	✓	
Residence 7	✓	

Copco No. 2 Development Asbestos and/or Lead-Based Materials		
Facility	Facility	Facility
Residence 8	✓	
Throughout Wood Stave Penstock	✓	
Transite Piping (Assumed to be present underground throughout the Copco 2 Development)	✓	
Control Center Building		✓
Diversion Dam		✓
Former Cookhouse		✓
Hazardous Waste Storage		✓
Iron Gate Development Asbestos and/or Lead-Based Materials		
Facility	Asbestos	Lead
Aerator (IGDAE)	✓	✓
Diversion Tunnel Intake Structure (IGDDTI)	✓	✓
Fish Holding Facility (IGDFHF)	✓	✓
Maintenance Shed (IGDMS)	✓	
Maintenance Shed (IGDMS)	✓	
Penstock (IGDPS)	✓	✓
Penstock Intake Structure (IGDPIS)	✓	✓
Powerhouse (IGDPH)	✓	✓
Transite Piping	✓	
Residence 1	✓	
Residence 2	✓	
Communications Building		✓

Table A-3: Characteristic Hazardous Waste Inventory

Copco No. 1			
Hazardous Class	Common Name	Quantities	Storage Container
Flammable Gas	Liquefied Petroleum Gas	171 gallons	AST – Cylinder
Flammable and Combustible Liquids	Governor Oil (hydraulic oil)	1,500 gallons	Tank inside of building
Flammable and Combustible Liquids	Transformer Oil	11,000 gallons	Tank inside of building
Corrosives (Liquid and Solids)	Lead Acid Batteries	66 gallons	Glass bottle or jug
Nonflammable Gases	Nitrogen	150 cubic feet	Cylinder
Flammable Gases	Liquefied Petroleum Gas	499 gallons	Cylinder
Copco No. 2			
Hazardous Class	Common Name	Quantities	Storage Container
Flammable and Combustible Liquids	Diesel Fuel No. 2	375 gallons	AST
Flammable Gas	Liquefied Petroleum Gas	250 gallons	AST
Flammable and Combustible Liquids	Transformer Oil	12,778 gallons	AST
Flammable and Combustible Liquids	Gasoline	500gallons	AST
Nonflammable Gases	Oxygen	500 cubic feet	Cylinder
Flammable and Combustible Liquids	Governor and Bering Oil (hydraulic oil)	3,600 gallons	Steel drum, Plastic/ Non-metallic drum
Flammable Gases	Acetylene	300 cubic feet	Cylinder
Nonflammable Gases	Nitrogen	750 cubic feet	Cylinder
Nonflammable Gases	Argon, Liquid	700 cubic feet	Cylinder
Flammable and Combustible Liquids	Oil base paint	50 gallons	Cans
Corrosives (Liquids and Solids)	Lead Acid Batteries	64 gallons	Glass bottle or Jug

Iron Gate			
Hazardous Class	Common Name	Quantities	Storage Container
Nonflammable Gases	Nitrogen	1,850 cubic Feet	Cylinder
Flammable and Combustible Liquids	Governor and Bearing Oil (hydraulic oil)	1,400 gallons	Tank Inside Building
Flammable and Combustible Liquids	Transformer Oil	3,500 gallons	Other
Corrosives (Liquids and Solids)	Lead Acid Batteries	102 gallons	Other

Appendix B

Copco No. 1 Development - Hazardous Materials Survey Report



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**HAZARDOUS MATERIALS SURVEY
FINAL REPORT**

CLIENT

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SURVEY ADDRESS

COPCO1 Development

BUILDINGS SURVEYED

**Multiple Structures at COPCO1 Development
Klamath River Renewal Project**

PREPARED BY

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Entek Project #20-5562

October 28, 2020

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Appendices

- A. Asbestos Related Documents
- B. Lead Related Documents
- C. Sample Location Maps
- D. Backup Documentation
- E. Historical Documents

Executive Summary

Entek Consulting Group, Inc. (Entek) was contracted to conduct a supplementary investigation for hazardous materials specific to areas at the COPCO 1 Development as designated by NV5 and Kiewit Infrastructure West Co. (Kiewit) as part of the Klamath River Renewal Project. Based on documentation provided to Entek, AECOM Technical Services, Inc. (AECOM) conducted a hazardous materials survey in April of 2019. Entek utilized AECOM's survey and the sample results to minimize the number of samples and time required to complete the survey. This report combines AECOM's final report as well as Entek's supplemental sampling into one report. AECOM's report is also attached to this report for your records. The investigation included an assessment of the following:

- Asbestos Materials
- Lead in Paint, Coatings, Ceramic Products and other Construction Components
- Fluorescent Light Tubes
- Light Ballasts
- Polychlorinated Biphenyls (PCB)
- Mercury Containing Thermostats and Switches
- Smoke Detectors with Radioactive Americium 241
- Exit Signs with Radioactive Gas Tritium
- Freon

Entek did not specifically inspect for mercury containing fluorescent light tubes or light ballast which may contain polychlorinated biphenyls (PCBs), thermostats which may contain mercury switches, equipment or systems which may contain Freon or other fluorocarbons, or smoke detectors which may contain a radioactive element. However, information pertaining to these materials is included in this report for your use and reference, since these light systems are present on the project.

The purpose of the inspection was to comply with the US EPA NESHAP requirements and the California Air Resource Board which has jurisdiction for this project site to determine if asbestos containing materials are present which may be impacted during an upcoming demolition project.

The United States Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (US EPA NESHAP), 40 CFR Part 61 - Nov. 20, 1990, requires an owner or operator of a demolition or renovation project to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos-containing materials (ACM) prior to the commencement of that project.

This inspection was requested by Ms. Heidi Cummings, Senior Geologist with NV5. The attached drawings show approximate sample locations. Materials are classified in the tables of this report as Regulated Asbestos Containing Material (RACM), Category I (CAT-I) or Category II (CAT-II) ACM, or Asbestos Containing Construction Material (ACCM). The report must be read in its entirety prior to making any interpretations, or conclusions pertaining to the information. Any conclusions made by the reader about the information provided in the body of this report which are contradictory or not included in

this report are the responsibility of the reader.

Introduction

This report presents results of a supplemental asbestos and lead survey performed by Entek which included the interior and exterior of select structures as outlined in the building descriptions below. These buildings are located at the COPCO1 Development. Fluorescent lights were observed at this project site; therefore, this report also includes references to regulations pertaining to handling practices and waste disposal of PCB light ballasts and mercury containing light tubes and thermostats which may be impacted during this project.

The inspection was conducted by Mr. Andy Roed and Mr. Richard Perrelli on September 17, 2020. Mr. Roed and Mr. Perrelli are Cal/OSHA Certified Asbestos Consultants (CAC) and State of California Department of Public Health (CDPH) certified Lead Inspector/Assessors.

This report was prepared for Ms. Heidi Cummings, Senior Geologist with NV5.

Building Description

The following structures were not accessible by Entek and/or AECOM during either survey. The company in parenthesis was unable to access the structure due to safety or instructed to not enter structure by the building owner.

- Switchyard (Entek/AECOM)
- Residence 2 Interior (Entek)
- Foundation of Former Residence (Entek/AECOM)

Dam, Gatehouses, and Right Abutment Intake Structure (CC1GH and CC1RAIS)

The Dam, Gatehouses, and Right Abutment Intake Structure were assessed together. The two gatehouses were labeled C11 Gatehouse and C12 Gatehouse. The dam is a concrete gravity arch dam and is constructed of poured concrete with dam operating machinery including dam mules and tracks located at the top of the dam. The dam structure is approximately 135 feet tall and has a 492 foot radius at the upstream face. The Right Abutment Intake Structure is located on the west end of the dam; a portion of the Intake Structure is accessed through a metal grating that opens above the water and was not accessed during the HBMS due to safety reasons. Gatehouses C11 and C12 are approximately 570 square feet and 700 square feet, respectively. Both gatehouses are single story slab on grade structures with exterior stucco siding and copper shingle roofing. The interior of both gatehouses house dam operating machinery and are constructed of concrete walls and floors and an unfinished wood plank ceiling. The dam and associated equipment are currently in operation.

Emergency Spill Equipment Shed (CC1ES)

The Emergency Spill Equipment Shed is adjacent to the Powerhouse, is approximately 100 square feet, and is a single story slab on grade shed, with engineered wood siding and asphaltic shingle roofing. The interior of the shed is unfinished wood. The structure is currently being used as storage for emergency spill equipment purposes.

Foundation of Former Residence (CC1FFR)

The Foundation of Former Residence is located on a bluff west of the Copco Lake reservoir and consists of the remains of a burned down residence. The structure includes a river rock foundation and chimney. The structure overlooks the reservoir and was inaccessible during the HBMS due to a combination of washed away hillside and poison oak. The structure is not used.

Groundwater Pumphouse (CC1GWPH)

The Groundwater Pumphouse is located across the street and southeast of former Residence 2. The structure is approximately 50 square feet and is a single story slab on grade structure. The exterior of the structure consists of corrugated metal siding and roofing and the interior is unfinished. The structure is currently being used to house the groundwater well head and chlorine tanks for groundwater chlorination.

Maintenance Building (CC1MB)

The Maintenance Building is approximately 1,500 square feet and is a single story pile dwelling constructed on the side of a hill. The exterior of the structure consists of wood siding and corrugated metal roofing. The interior of the structure consists of unfinished wood throughout all surfaces. The structure is currently being used for storage.

Penstocks (CC1PS)

The Penstocks divert water from the Copco Lake reservoir and feed into the Powerhouse. They are approximately 10 feet to 14 feet in diameter and are constructed of steel and encased in places with concrete thrust blocks.

Powerhouse (CC1PH)

The Powerhouse is located below the dam embankment, south of the dam. The Powerhouse footprint is approximately 10,500 square feet. The structure consists of a main ground level floor and a subgrade basement. The exterior of the structure is constructed of corrugated metal siding and roofing. The interior of the structure consists of poured concrete walls and exposed metal roofing. The Powerhouse is currently operational and houses mechanical equipment including turbines, transformers, generators, and penstock intakes.

Residence 1 (CC1R1)

Residence 1 is a former residence that is no longer occupied, and is the main structure on the associated property. The structure is approximately 1,120 square feet and is a single story structure with a crawl space foundation. The exterior of the structure is constructed of aluminum siding and corrugated metal roofing over wood shake shingle roofing. The interior finishes of the structure consists of wood walls and ceilings and tack-down carpeting and vinyl floor sheeting. An attic space is insulated with blown-in cellulose insulation. A walled-in chimney extends through the middle of the main structure. A detached shed associated with the former residence is located within the yard and is approximately 456 square feet. The exterior of the shed is constructed of aluminum siding and asphaltic shingle roofing over wood shake shingle roofing.

Residence 2 (CC1R2)

Residence 2 is a former residence that is no longer occupied. The structure is approximately 1,120 square feet and is a single story structure with a crawl space foundation. The exterior of the structure is constructed of aluminum siding and corrugated metal roofing. The interior finishes consist of wood walls and ceilings and tack-down carpeting and vinyl floor sheeting. An attic space is insulated with blown-in cellulose and fiberglass batt insulation. A walled-in chimney extends through the middle of the structure. Entek was unable to access the interior of this structure as our site contact did not have keys to open the structure.

Stop Log Shed (CC1SLS)

The Stop Log Shed is approximately 200 square feet and is an open air, wooden framed, slated floor, corrugated metal roof shed with creosote treated wooden stop logs.

Switchyard (CC1SY)

The Switchyard is approximately 10,000 square feet, is located about 100 feet east of the Maintenance Building, and is contained by a chain link fence. The Switchyard contains electrical transformers, substations, isolators, and other associated electrical equipment. Power poles within the Switchyard appear to be treated with creosote. The Switchyard is currently in operation and was not entered during the survey due to safety concerns. A small metal structure is located on the east corner of the Switchyard.

Residence Shed (CC1RS)

The Residence Shed is an approximately 300 square feet open air, wooden framed, slated floor, corrugated metal roof shed.

Asbestos Inspection and Sample Collection Protocols

Entek included all specific designated interior and exterior areas of the buildings included in this report. Entek did not use any demolition methods to look within enclosed wall or ceiling cavities during this investigation. Entek did include all suspect materials observed in, on, or associated with the areas included in this report.

Entek reviewed the report prepared by AECOM prior to and during the site inspection. Materials sampled by AECOM were not resampled as part of this assessment. Only new material or materials which were assumed to contain asbestos by AECOM were sampled where possible.

Bulk samples were collected of various materials suspected to contain asbestos by utilizing a power drill and coring tube, cutting the materials with a razor knife, or use of other appropriate hand tools.

Surfacing materials were collected in a statistically random manner representative of the associated homogenous area as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987 and the California Air Resource Board (CARB).

Miscellaneous materials were collected from each homogenous area in a manner sufficient to determine whether the material is or is not ACM as required in 40 CFR Part

763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987.

Approximate locations of all samples collected during this inspection are indicated on the "Bulk Asbestos Material Analysis Request Form for Entek", which served as the chain of custody for the samples, and on the building diagram(s) attached to this report.

Asbestos Bulk Sample Results

There were several materials observed which are considered "suspect" under US EPA guidelines. Under current US EPA guidelines for conducting building inspections for ACM, all "suspect" materials must be assumed to contain asbestos until otherwise determined by laboratory testing.

The samples of materials suspected of containing asbestos were submitted to Asbestech, a laboratory located in Carmichael, California. These samples were subsequently analyzed by polarized light microscopy (PLM) with dispersion staining.

The US EPA NESHAP uses the terms Regulated Asbestos Containing Material (RACM), Category I, and Category II when identifying materials which contain asbestos in amounts greater than 1%. Cal/OSHA uses the term ACCM which indicates a manufactured construction material contains greater than 0.1% asbestos by weight by the PLM method. This definition can be found in Title 8, 1529.

Copies of Asbestech's laboratory reports and accreditations are attached.

Bulk samples were collected of all the materials considered to be "suspect", which had not been previously sampled, and were observed during this investigation. Some of those samples contained multiple layers which were individually analyzed to determine their asbestos content. Analysis of all samples collected was by PLM with dispersion staining. Results of the analysis for materials found to contain asbestos by both AECOM and Entek compiled in the table on the following pages

For all materials tested and found not to contain asbestos by Entek, refer to all laboratory results that are attached. In addition, the report by AECOM provides a list of materials with laboratory results of materials they collected, which include materials found to be positive and negative for asbestos.

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Dam and Gatehouses					
N/A	Square and Circular Gaskets on Mechanical Equipment	Throughout Mechanical equipment (including on unites in gatehouses and dam mules)	Cat. I	Assumed To Contain Asbestos	Approximately 20 Each
Foundation of Former Residence					
N/A	Gray Grout	River Rock Chimney of Burned down Foundation of Former Residence (Structure Not Accessible)	Cat. II	Assumed To Contain Asbestos	Unable to Quantify Due to Access Issues
N/A	Gray Grout	River Rock Foundation of Burned down Foundation of Former Residence (Structure Not Accessible)	Cat. II	Assumed To Contain Asbestos	Unable to Quantify Due to Access Issues
Powerhouse					
N/A	White Woven Electrical Wire Insulation	Throughout Powerhouse on both floors. Runs into walls and chases. Only visible at the basement levels. Labeled with ACM Stickers	Cat. II	Assumed To Contain Asbestos	1,500 linear feet observed (more likely in wall cavities and chases)
N/A	Electrical Panel Backing in Older Transformers	3 transformers on main floor, east end	Cat. II	Assumed To Contain Asbestos	3 Each
CC1PH-04	Gray Brittle Window Putty	Window panes throughout main floor (not including clerestory roof level windows which were not accessible)	Cat. II	3% Chrysotile	38 Each (4'x5')
N/A	Cement Asbestos Board (CAB)	Panels in various places throughout the main floor and basement (labeled with ACM stickers)	Cat. II	Assumed To Contain Asbestos	6 Each (2'x3')

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Window Putty	Window panes of clerestory roof level windows (not accessible)	Cat. II	Assumed To Contain Asbestos	28 Each (3'x5')
N/A	Gaskets on 2" and 8" Piping	Throughout Powerhouse piping and mechanical equipment	Cat. I	Assumed To Contain Asbestos	Quantity Unknown
N/A	Rope Gaskets	On transformers on main level of powerhouse	Cat. I	Assumed To Contain Asbestos	3 Each
N/A	Wicket Gate	Associated with turbines on main level of powerhouse, not accessible without removal of turbines	Cat. I	Assumed To Contain Asbestos	2 Each
N/A	Metal Clad Fire Door Insulation	Main floor of Powerhouse (not accessible without causing damage to fire rating of door)	Cat. II	Assumed To Contain Asbestos	2 Each
Residence 1 (CC1R1)					
CC1R1-2-01 and CC1R1-2-02	Beige Vinyl Floor Sheeting with Terrazzo Pattern and Paper Backing with Mastic	Flooring in Dining Room, Kitchen and Mudroom (note: multiple layers of sheet vinyl flooring found)	Cat. I	Non Detected (Vinyl Sheet Flooring)	400 Square Feet
			Cat. II	46-47% Chrysotile (Paper Backing and Mastic)	
CC1R1-2-03	Off-white Vinyl Floor Sheeting with Gray Paper Backing and Mastic	Flooring Underneath Gray Vinyl Sheet Flooring in Dining Room, Kitchen and Mudroom (note: multiple layers of sheet vinyl flooring found)	Cat. I	Non Detected (Vinyl Sheet Flooring)	400 Square Feet
			Cat. II	44% Chrysotile (Paper Backing and Mastic)	

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
CC1R1-1-04	White vinyl floor sheeting with gray square and flower pattern with paper backing and mastic	Flooring in dining room, kitchen and mud room	Cat. I Cat. II	Non Detected (Vinyl Sheet Flooring) 26% Chrysotile (Paper Backing and Mastic)	400 Square Feet
CC1R1-09	Yellow Mastic	Residual Mastic on Plywood above Garage Rafters	Cat. II	3-5% Chrysotile	15 Square Feet
CC1R1-12	Gray Chimney Grout	Center of House (Chimney enclosed in drywall wall, Requested Entek not cause damage to investigate) (Not Accessed by AECOM or Entek)	Cat. II	Assumed To Contain Asbestos	1 Chimney
CC1R1-13	Vapor Barrier Paper	Behind Multi-Layer Siding (Not accessible without causing significant damage to siding)	Cat. II	Assumed To Contain Asbestos	1,380 Square Feet
CC1R1-14	Black Mastic	Behind Wood Wall Paneling in Dining Room and Living Room	Cat. II	3% Chrysotile	850 Square Feet
Residence 2 (CC1R2)					
CC1R2-01	White Troweled on Surface Coat	Plywood Walls Throughout Living Room and Dining Room	Cat. II	<1% Chrysotile Confirmed by 1000 Point Count	900 Square Feet
CC1R2-05	Asphaltic Woven Electrical Insulation	Throughout interior wall spaces and Attic	Cat. II	Assumed to Contain Asbestos	Not Quantified
Throughout COPCO1 Development					

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Transite Piping	Assumed to be present underground throughout the COPCO1 Development	Cat. II	Assumed To Contain Asbestos	Unable to Quantify

NOTE: Any CAT-I or CAT-II materials identified in the previous tables which will be subjected to mechanical removal, must be considered RACM for the purposes of notification to US EPA Region IX, CARB, or Local AQMD and classification of waste. Removal of any CAT-I or CAT-II materials prior to demolition of a building is dependent upon how the materials will be impacted and if the impact will cause the materials to become friable. If any remaining CAT-I or CAT-II materials will become friable they must be removed prior to the initiation of demolition.

NOTE: Cal/OSHA regulates all materials containing greater than 0.1% asbestos. As a result, impact to materials identified as ACCM and ACM must be performed by properly asbestos trained personnel utilizing appropriate personal protection, work practices, as well as, properly constructed and demarcated work areas or containments, in accordance with Cal/OSHA asbestos regulations.

The tables above provide an estimate of the amount of materials in square feet or linear feet. Contractors are responsible for quantifying the exact quantity of materials impacted by the renovation or demolition and shall not rely on the quantities in the above tables.

US EPA AHERA uses three terms when determining the classification of a material for the purpose of sampling. These terms include miscellaneous, surfacing, and thermal system insulation (TSI).

Miscellaneous materials are building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, and do not include surfacing material or TSI.

Surfacing materials are materials that are sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceiling and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

TSI is material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain, water condensation, or for other purposes.

The information provided in the tables of this report are for use by the Owner in determining where asbestos containing materials are located, and whether or not any future work may impact those materials. The information is also provided for use by any contractor who may perform work in areas impacting the materials listed in this report, and for use as appropriate by asbestos abatement contractors to provide costs related to work impacting ACM.

Any building materials which are considered “suspect” for containing asbestos which have not been identified in this report must be assumed to contain asbestos in amounts >1% until properly investigated and/or tested.

Materials commonly excluded from being suspected for containing asbestos include, but are not limited to: unwrapped pink and yellow fiberglass insulating materials or products, foam insulation, wood, metal, plastic, or glass. All other types of building materials or coatings on the materials listed above are commonly listed as “suspect” and must be tested prior to impact by a Contractor. Work impacting these untested or newly discovered materials must cease until an investigation can be completed.

Asbestos Regulatory Requirements

US EPA

The property included in this survey report is located in Siskiyou County. The California Air Resource Board (CARB) has been given authority for enforcement of the NESHAP regulations.

A demolition is the wrecking, taking out, or burning of any load supporting structural member. A renovation is everything else. 10 day written notification to the US EPA Region IX, CARB or local AQMD is required prior to the performance of any demolition project regardless of asbestos being present or not. This notification would also apply to any renovation project which involves the wrecking, taking out, or burning of any load bearing

structural member during a renovation as well.

There is a sufficient amount of ACM present to require a 10 day notification to the US EPA Region IX, CARB or local AQMD be submitted prior to starting work which will impact materials identified as RACM or CAT-I and CAT-II materials if they are made friable. If more than 160 square feet, 260 linear feet or 35 cubic feet of RACM is planned for removal on the project, formal written notification to US EPA Region IX, CARB or local AQMD is required.

Cal/OSHA

Disturbance of any ACM or ACCM could generate airborne asbestos fibers and would be regulated by Cal/OSHA. Cal/OSHA worker health and safety regulations apply during any disturbance of ACM or ACCM by a person while in the employ of another. This is true regardless of friability or quantity disturbed. Since it has been estimated more than 100 square feet of ACCM does exist and will be impacted during the upcoming project, a licensed asbestos contractor, certified by the State of California, and registered with Cal/OSHA is required to perform the asbestos related removal work. Entek recommends a licensed asbestos contractor be used to remove ACCM even if less than 100 square feet of ACCM are being disturbed.

For compliance with Title 8, Section 341.9, the asbestos contractor must send written notice at least one day (24 hours) prior to start of any work which will impact any amount of asbestos to the local office for the State of California, Department of Occupational Safety and Health, and perform all work in accordance with Cal/OSHA requirements.

Lead Inspection and Sampling

An X-ray fluorescence (XRF) Spectrum Analyzer was used during the lead inspection portion of this survey as a screening tool in determining if lead is present in quantities which would require existing paints and/or coatings to be classified as Lead-Based Paint (LBP).

In XRF spectroscopy, the process begins by exposing the sample in question to a source of x-rays or gamma rays. As these high energy photons strike the sample, they tend to knock electrons out of their orbits around the nuclei of the atoms that make up the sample. When this occurs, an electron from an outer orbit, or "shell", of the atom will fall into the shell of the missing electron. Since outer shell electrons are more energetic than inner shell electrons, the relocated electron has an excess of energy that is expended as an XRF photon. This fluorescence is unique to the composition of the sample. The detector collects this spectrum and converts them to electrical impulses that are proportional to the energies of the various x-rays in the sample's spectrum. Since each element has a different and identifiable x-ray signature, we can look at specific parts of the emitted spectrum, and by counting the pulses in the sector, determine the presence and concentration of the element(s) in question within the sample. Entek used a Niton XRF spectrum analyzer which is specific to measuring only lead in the building substrate.

Lead Sampling Results

XRF Spectrum Analyzer testing indicated lead was present in concentrations $>1.0 \text{ mg/cm}^2$

on various building components. XRF direct reading technology is not capable of determining lead concentrations below 1.0 mg/cm². The limit of detection for this device with a 95% confidence level is 1.0 mg/cm². As a result, any reading provided by the XRF technology does not provide adequate information to determine the actual content of lead in the paint/coating being tested. Any XRF reading less than 1.0 mg/cm² (including readings of 0.00) only indicate lead is not present at levels high enough to classify the paint/coating as LBP. Coatings or materials which resulted in a lead concentration of below 1.0 mg/cm² were then sampled and analyzed by atomic absorption spectrometry (AAS) for lead content. Results of the XRF analysis and laboratory analysis are included in the tables below. Coating which reported concentrations below the laboratories detection limit are included in the laboratory results attached to this report.

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/LCP
Gatehouses (CC1GH)			
White Paint	150,000 ppm	Wood Trim on C11 Gatehouses	LBP
White Paint	130,000 ppm	Wood Trim on C12 Gatehouses	LBP
Groundwater Pump-House (CC1GWPH)			
White Paint	3,300 ppm	Wood Door and Trim	LCP
Maintenance Building (CC1MB)			
White Paint	93,000 ppm	Wood Siding Throughout	LBP
Penstocks (CC1PS)			
Gray/Silver Paint	31,000 ppm	Steel Penstock Exterior	LBP
Powerhouse (CC1PH)			
Blue Paint	69,000 ppm	Steel Penstock and Hydraulic Turbine Inside Plant	LBP
Gray Paint	140 ppm	Concrete Walls and Floor of Main Floor	LCP
White Paint	95,000 ppm	Concrete Walls throughout Main Floor	LBP
Red Paint	83,000 ppm	Concrete Equipment Pads on Main Floor	LBP
Yellow Paint	5.5 mg/cm ²	Metal Beams	LBP
Residence 1 (CC1R1)			
White on Gray Paint	73,000 ppm	Wood Exterior Door and Trim	LBP
White Paint	630 ppm	Wood Interior Walls Throughout	LCP
White Paint	1000 ppm	Wood Interior Walls Throughout	LCP
Pink Paint	420 ppm	Wood Bathroom Walls	LCP
White Paint	96,000 ppm	Wood Exterior Door and Trim on Shed	LBP
Residence 2 (CC1R2)			
White Paint	170 ppm	Exterior Concrete Foundation	LCP

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/ LCP
White Paint	2.7 mg/cm ²	Wood Decking and Column of Deck	LBP
Resident Shed (CC1RS)			
White Paint	3,000 ppm	Wood Exterior Siding	LCP
White Paint	3,100 ppm	Wood Siding on Exterior of Abandoned Shed	LCP

LBP - Materials/coatings/paints meeting the definition of lead-based paint as defined by the CDPH and the US EPA, currently defined as containing lead in concentrations equal to or greater than 1.0 mg/cm², 5,000 ppm, or 0.5% by weight.

LCP - Materials/coatings/paints which contain measurable amounts of lead. The disturbance of these materials/coatings/paints is regulated by Cal/OSHA.

Lead Regulatory Compliance

Any upcoming project which may result in the disturbance of lead containing products or surfaces, but is not intended to remediate a lead hazard or specifically designed to remove LBP to reduce or eliminate a known hazard, would be considered “lead related construction work”.

Lead related construction work does not fit the classification of a “lead abatement project” under CDPH Title 17 regulations. “*Abatement*” is defined in Title 17, Division 1, Chapter 8, Article 1 as “any set of measures designed to reduce or eliminate lead hazards or LBP for public and residential buildings, but does not include containment or cleaning.” A *lead hazard* is defined in Title 17, Division 1, Chapter 8, Article 1 as “deteriorated LBP, lead contaminated dust, lead contaminated soil, disturbing LBP or presumed LBP without containment, or any other nuisance which may result in persistent and quantifiable lead exposure.”

Lead related construction work means any “construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead”. (Title 17, California Code of Regulations, Division 1, Chapter 8, Article 1).

Currently, Cal/OSHA has not established a definition for LBP, nor have they established minimum concentrations where their regulations do not apply. Cal/OSHA regulates all construction activities involving materials containing lead, including LBP. These regulations are found in CCR, Title 8 Section 1532.1 (§1532.1) Lead in Construction.

Cal/OSHA has not established a concentration of lead in a product where their regulations do not apply, therefore, any disturbance to products containing lead come under the jurisdiction of Cal/OSHA and their regulations. Disturbance of paints/coatings or materials determined to be LBP may trigger a pre-work notification to Cal/OSHA if “trigger tasks” disturb 100 square feet or more of those paints/coatings or materials. Trigger tasks are described in Title 8 CCR 1532.1.

Fluorescent Light Tubes and Polychlorinated Biphenyls (PCBs)

Fluorescent light tubes which contain mercury are considered a universal waste and must be packaged and recycled appropriately if they are removed from a building and not used again. The regulation, called the Universal Waste Rule, is in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 23.

Fluorescent light tubes are the bulb or tube portion of an electric lighting device and are commonly referred to as “lamps”. Examples of other common electric lamps considered to be universal wastes include, but are not limited to, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Any lamp which is not spent and has been designated to be reused is not classified as a waste and does not meet the requirements of a hazardous waste or a universal waste.

Spent lamps typically contain concentrations of mercury exceeding the established Total Threshold Limit Concentration (TTLC) and/or the Soluble Threshold Limit Concentration (STLC) values. Therefore, these lamps must be sent to an authorized recycle facility or to a universal waste consolidator for shipment to an authorized recycling facility.

At a minimum, if removed lamps will not be reused they must be packaged in boxes/packages/containers which are structurally sound, adequate to prevent breakage, and compatible with the content of the lamps. These packages must remain closed and be free of damage which could cause leakage under reasonably foreseeable conditions. Each container must be labeled or marked clearly with one of the following phrases: “Universal Waste Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).” Entek recommends shipping any lamp not designated for reuse to a universal waste recycling facility once they have been packaged.

PCB containing light ballasts are considered a hazardous waste, and must be properly manifested for transport to a hazardous waste facility. Any contractor who may perform PCB related work (inspection, removal, clean-up) must be trained and qualified to do so. All workers must also follow current OSHA regulations including 29 CFR 1910.120 and 8 CCR 5192, as well as, other applicable federal, state, and local laws, and regulations. While light ballasts marked “No PCB” are not considered a hazardous waste, they are considered a universal waste. As a result, removal, packaging, and disposal/recycling of these types of ballasts must be conducted in accordance with current regulations of Title 22.

Entek and AECOM made an effort to assist in quantifying select materials throughout the structure. The below quantities are estimates based on observations during the assessment. It shall be the contractor responsibility to verify the total quantities present.

Universal Waste Inventory	
Other Regulated Building Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	34
Mercury-Containing fluorescent light tubes (8' length)	17
Suspect PCB containing light ballasts	23
Magnetic light ballasts	2

HID Lamps	16
Mercury-containing switches, controls, and recorders	None Observed
PCB-Containing Transformer Oil	3 (powerhouses)

PCB Caulking Results		
Material Description	Material Location	Sample Results (mg/kg)
Flexible Gray Expansion Joint Sealant	Top of COPCO1 Dam at expansion joints	<1.02

Thermostats with Mercury Switches

It is possible existing thermostats may utilize switches containing mercury. The mercury in these switches would be considered a hazardous waste if removed and disposed. Any work requiring removal of thermostats containing mercury switches, must include having the switches inspected for the presence of mercury, and subsequently following all requirements for packaging and disposal of any switch found to contain mercury.

Freon and Fluorocarbons

Freon and other fluorocarbon products associated with HVAC systems, refrigerators, etc. may be present in or on the exterior of the buildings included in this investigation. Prior to demolition of a structure or removal of existing HVAC systems, refrigerators, or any other type of equipment which typically uses these types of coolant products shall have the coolant materials investigated prior to their demolition and removed from the mechanical systems and recycled in accordance with Cal/EPA requirements.

Smoke Detectors Which May Contain a Radioactive Element

It is possible existing smoke detectors may contain a radioactive element. These types of detectors are easily identified by reviewing the label which is usually found on the back of the detector. Older units may display the international radiation symbol (three bladed propeller) and the radioactive content. Newer units state the radioactive content and their Nuclear Regulatory Agency (NRC) license number.

Any work requiring the removal of smoke detectors with a radioactive element must include contacting the manufacturer of the smoke detector to determine their return policies. The California Department of Toxic Substance Control (DTSC) has stated that it is a condition of the manufacturers NRC license they must accept returned units for disposal.

Limitations

Entek inspected only the specific designated areas identified by the Owner to be included in the upcoming project. Select structures as outlined in the building description portion of this report were not assessed due to either safety concerns or at the request of the building owner. As a result the information provided in this inspection report may not be used to extend the inspection results to areas not included in this report without additional review

and sampling as necessary.

Entek did not perform any destructive sampling to look into ceiling and wall cavities. As a result, it may be possible for materials to be hidden in these areas which are not included in this report. Entek also did not employ any destructive measures on floors of interior spaces or exterior areas covered with asphalt, concrete, or dirt.

If any new materials not listed as having been sampled, or listed as assumed for containing asbestos in this report are discovered, the new material must be assumed to contain asbestos until properly inspected and tested for asbestos content.

Entek's policy is to retain a full copy of these written documents for three (3) years once the file is closed. At the end of the 3 year period the written files will be destroyed without further notice. It is suggested copies of the file(s) are maintained as per your policy.

Entek will be providing only this electronic copy of the report and its attachments for your use. However, if you would like a hard copy of this report please do not hesitate to ask. Entek will be happy to mail the report upon receipt of your request.

Thank you for choosing Entek for your environmental needs. Please call me at (916) 632-6800 if you have any questions regarding this report.

Prepared by: Andy Roed
Andy Roed, CIH, CSP, CAC
President
Cal/OSHA CAC #16-5695
CDPH I/S/M Certification #2989

Appendices

- A. Asbestos Related Documents
- B. Lead Related Documents
- C. Sample Location Maps
- D. Backup Documentation
- E. Historical Documents

APPENDIX A

ASBESTOS RELATED DOCUMENTS

- Bulk Asbestos Analysis Report From Asbestech
- Bulk Asbestos Material Analysis Request Form for Entek

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:
Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:
20-5562 NV5
COPCO1

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67933
Date/Time Collected: 9/14/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC1R1-01A	Gray concrete foundation of bldg.	NONE DETECTED	Granular Mins.
	Tan paint	NONE DETECTED	Opagues
02A	Black asphalt driveway of property	NONE DETECTED	Tar Binder Granular Mins.
03A	Black felt paper siding of abandoned shed	NONE DETECTED	Tar Binder Cellulose
03B	Black felt paper siding of abandoned shed	NONE DETECTED	Tar Binder Cellulose
04A	White unfinished drywall , abandoned shed	NONE DETECTED	Gypsum Cellulose
04B	White unfinished drywall , abandoned shed	NONE DETECTED	Gypsum Cellulose
05A	Black felt paper under metal roofing of abandoned shed	NONE DETECTED	Tar Binder Cellulose
05B	Black felt paper under metal roofing of abandoned shed	NONE DETECTED	Tar Binder Cellulose

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:
Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:
20-5562 NV5
COPCO1

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67934
Date/Time Collected: 9/14/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC1R2-01A	Gray concrete foundation of bldg.	NONE DETECTED	Granular Mins.
	White paint	NONE DETECTED	Opagues
02A	Gray vapor barrier under siding	NONE DETECTED	Cellulose
02B	Gray vapor barrier under siding	NONE DETECTED	Cellulose
03A	Gray vapor barrier under metal roofing	NONE DETECTED	Polyethylene
03B	Gray vapor barrier under metal roofing	NONE DETECTED	Polyethylene
04A	Black asphalt driveway of property	NONE DETECTED	Tar Binder Granular Mins.
05A	Black felt paper under metal roofing of garage	NONE DETECTED	Tar Binder Cellulose
05B	Black felt paper under metal roofing of garage	NONE DETECTED	Tar Binder Cellulose

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.



67933

BULK ASBESTOS MATERIAL *Analysis Request***ENTEK CONSULTING GROUP, INC.**

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-14-2020**Job Number:** 20-5562**Client Name:** NV5**Site Address:** COPCO1**Lab:** Asbestech**Collected by:** Andy Roed**Turnaround Time:** Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm**ANALYSIS REQUESTED:** Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC1R1-01A	Concrete / Foundation of Building
ECG-20-5562-CC1R1-02A	Asphalt / Driveway of Building
ECG-20-5562-CC1R1-03A	Felt Paper / Siding of Abandoned Shed
ECG-20-5562-CC1R1-03B	Felt Paper / Siding of Abandoned Shed
ECG-20-5562-CC1R1-04A	Drywall (Unfinished) / Abandoned Shed
ECG-20-5562-CC1R1-04B	Drywall (Unfinished) / Abandoned Shed
ECG-20-5562-CC1R1-05A	Felt Paper / Under Metal Roofing of Abandoned Shed
ECG-20-5562-CC1R1-05B	Felt Paper / Under Metal Roofing of Abandoned Shed

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Delivered by: [Signature] **Date:** 10 / 7 / 20 **Time:** 1040 **AM/PM****Received by:** [Signature] **Date:** 10 / 7 / 20 **Time:** 1040 **AM/PM**



67934

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-14-2020

Job Number: 20-5562

Client Name: NV5

Site Address: COPCO1

Lab: Asbestech

Collected by: Andy Roed

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC1R2-01A	Concrete / Foundation of Building
ECG-20-5562-CC1R2-02A	Vapor Barrier / Under Siding
ECG-20-5562-CC1R2-02B	Vapor Barrier / Under Siding
ECG-20-5562-CC1R2-03A	Vapor Barrier / Under Metal Roofing
ECG-20-5562-CC1R2-03B	Vapor Barrier / Under Metal Roofing
ECG-20-5562-CC1R2-04A	Asphalt / Driveway of Property
ECG-20-5562-CC1R2-05A	Felt Paper / Under Metal Roofing of Garage
ECG-20-5562-CC1R2-05B	Felt Paper / Under Metal Roofing of Garage

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Delivered by: [Signature] **Date:** 10 / 7 / 20 **Time:** 1040 **AM/PM**

Received by: [Signature] **Date:** 10 / 7 / 20 **Time:** 1040 **AM/PM**

APPENDIX B

LEAD RELATED DOCUMENTS

- Lead in Paint Samples Analysis Report From EMLAB
- XRF Results and Calibration Documentation
- Bulk Lead Material Analysis Request Form for Entek



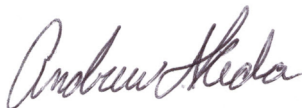
Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPCO1
EML ID: 2498726

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-12-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPCO1Date of Sampling: 09-14-2020
Date of Receipt: 10-08-2020
Date of Report: 10-14-2020**LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY**

Location:	ECG-20-5562-CC1R1-01Pb: White paint on exterior wood of abandoned shed
Comments (see below)	None
Lab ID-Version‡:	11905842-1
Analysis Date:	10/12/2020
Sample type	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	39 ppm
Sample size	0.2577 grams
§ Total Lead Result	3100 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".



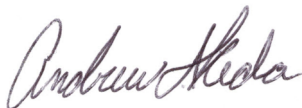
Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPCO1
EML ID: 2498718

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-12-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPCO1Date of Sampling: 09-14-2020
Date of Receipt: 10-08-2020
Date of Report: 10-14-2020**LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY**

Location:	ECG-20-5562-CC1R2-01Pb: White paint on exterior concrete foundation
Comments (see below)	None
Lab ID-Version‡:	11905882-1
Analysis Date:	10/12/2020
Sample type	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	39 ppm
Sample size	0.2593 grams
§ Total Lead Result	170 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Lead Testing Data Sheet (OSHA)

Iron Gate Development

Entek Project # 20-5562

Niton: XLp-300A Lead Analyzer

Date: 9-17, 2020

Address: COPCO1

XRF Serial No.: 24015

Source No.: TR3580

Room Equivalent: COPCO1 Development

Inspector(s): Andy Roed

Component	Substrate	Color	Test Locations	XRF Reading (mg/cm ²)
Structural Beam	Metal	Yellow	Powerhouse, Yellow Paint on Structural Beams	5.5
Foundation	Concrete	White	Residence 2, Concrete Foundation	0.0
Decking	Wood	White	Residence 2, Exterior Deck, Wood Decking and Support column for porch overhang	2.7
Siding	Wood	White	Residence 1, Abandoned Shed, Siding	0.3

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All XRF Readings ≥ 1.0 mg/cm² = Lead Based Paint (LBP)All XRF Readings < 1.0 mg/cm² = Lead Containing Coating (LCC)

Calibration Check Test Results

Klamath River Dams

Site Name: Copco 1 Development Date: 9-17-2020
City: Hornbrook, CA
Device: Niton Xlp 300 Source Assay Date: 12-1-19
XRF Serial No. 24015 Source Number: TR3580
Contractor: Entek Consulting Group, Inc.
Inspector Name: Andy Roed
Inspector Signature: _____

Calibration Check Tolerance Used <u>1.04 ±0.06</u>			
First Calibration Check <u>0900</u> hours			
Red SRM (2573) 0.8 to 1.2 mg/cm ²			Do All Three Checks Meet the Standard?
First Reading	Second Reading	Third Reading	Yes
1.0	1.0	0.9	

Second Calibration Check <u>1600</u> hours			
Red SRM (2573) 0.8 to 1.2 mg/cm ²			Do All Three Checks Meet the Standard?
First Reading	Second Reading	Third Reading	Yes
1.0	1.1	1.0	

Third Calibration Check <u>N/A</u>			
Red SRM (2573) 0.8 to 1.2 mg/cm ²			Do All Three Checks Meet the Standard?
First Reading	Second Reading	Third Reading	N/A
N/A	N/A	N/A	

Fourth Calibration Check <u>N/A</u>			
Red SRM (2573) 0.8 to 1.2 mg/cm ²			Do All Three Checks Meet the Standard?
First Reading	Second Reading	Third Reading	N/A
N/A	N/A	N/A	

* If the Calibration Check from the red SRM film value is greater or less than the specified Calibration Check Tolerance for this device, consult the manufacturer's recommendations to bring the instrument back into control. Retest all testing combinations tested since the last successful Calibration Check test.

Performance Characteristic Sheet

EFFECTIVE DATE: September 24, 2004

EDITION NO.: 1

MANUFACTURER AND MODEL:

Make: Niton LLC

Tested Model: XLp 300

Source: ^{109}Cd

Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLi and XLp series:

XLi 300A, XLi 301A, XLi 302A and XLi 303A.

XLp 300A, XLp 301A, XLp 302A and XLp 303A.

XLi 700A, XLi 701A, XLi 702A and XLi 703A.

XLp 700A, XLp 701A, XLp 702A, and XLp 703A.

Note: The XLi and XLp versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive)

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is not needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

INCONCLUSIVE RANGE OR THRESHOLD:

K+L MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm ²)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
	All Data			Median for laboratory-measured lead levels (mg/cm ²)		
Substrate	25 th Percentile	Median	75 th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.



BULK LEAD MATERIAL *Analysis Request*



002498726

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 9-14-2020

Job Number: 20-5562

Client Name: NV5

Site Address: COPCO1

Lab: Emlab P & K - Irvine

Collected by: Roed

Turnaround Time: Standard

ANALYSIS REQUESTED: Lead by Flame Atomic
Absorption Spectroscopy

Special Instruction: *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC1R1-01Pb	White Paint on Exterior Wood of Abandoned Shed

C:\Users\seibert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO1\COCs\CC1R1\Bulk Request Pb
09-15-2020.wpd

Delivered by:

W. -ia Fedex

Date:

10/17/20 Time: *9* AM/PM

Received by:

[Signature]

Date:

10/18/20 Time: *945* AM/PM



BULK LEAD MATERIAL *Analysis Request*



002498718

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 9-14-2020

Job Number: 20-5562

Client Name: NV5

Site Address: COPCO1

Lab: Emlab P & K - Irvine

Collected by: Roed

Turnaround Time: Standard

ANALYSIS REQUESTED: Lead by Flame Atomic
Absorption Spectroscopy

Special Instruction: *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC1R2-01Pb	White Paint on Exterior Concrete Foundation

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO1\COCs\CC1R2\Bulk Request Pb
09-15-2020.wpd

Delivered by:

[Signature] via FedEx

Date:

10/17/20

Time:

9 AM/PM

Received by:

[Signature]

Date:

10/18/20

Time:

9:45 AM/PM

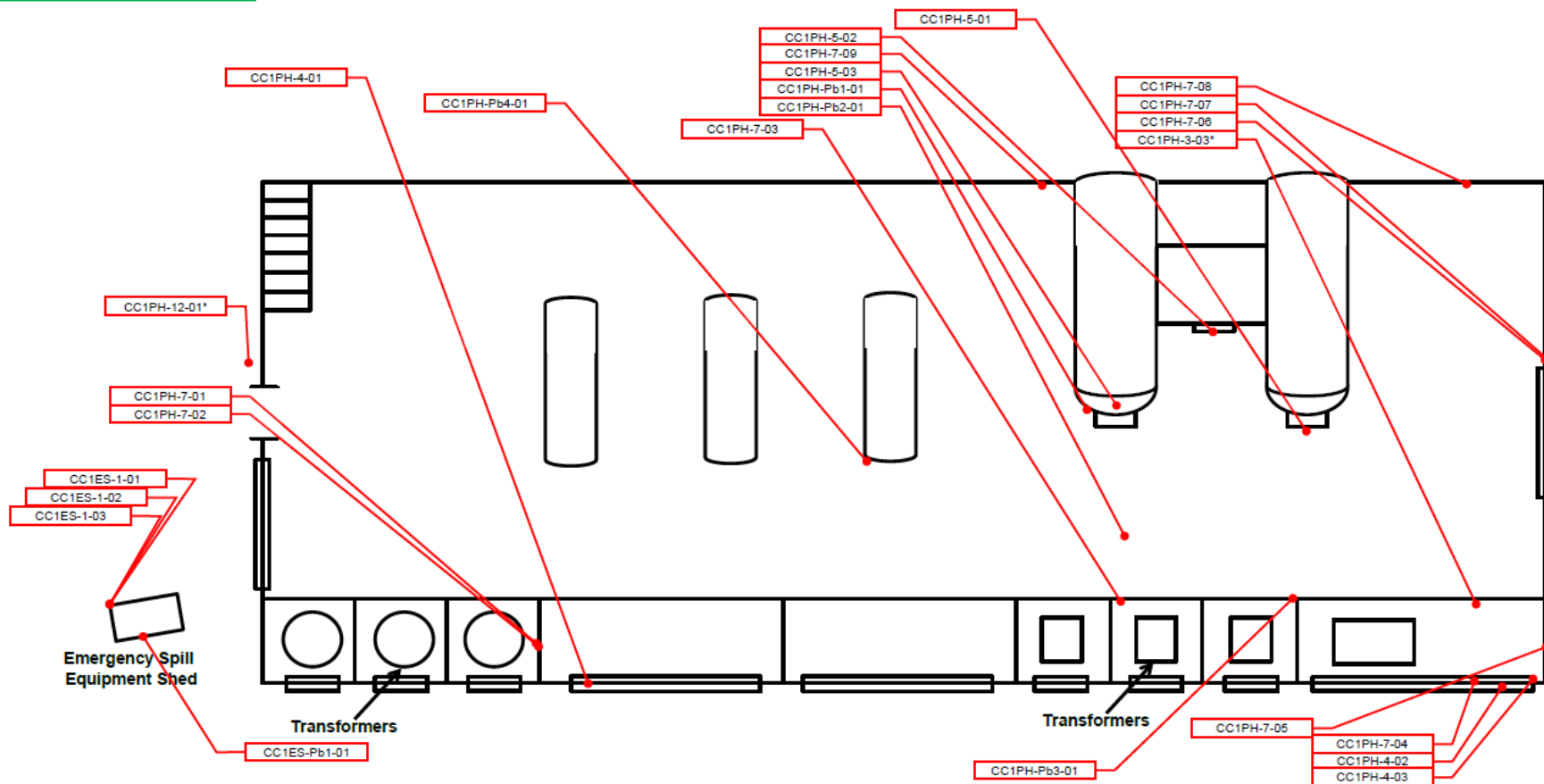
APPENDIX C

Sample Location Maps

- Asbestos and Lead Sample Location Diagrams

AECOM Sample Locations

Entek Sample Locations



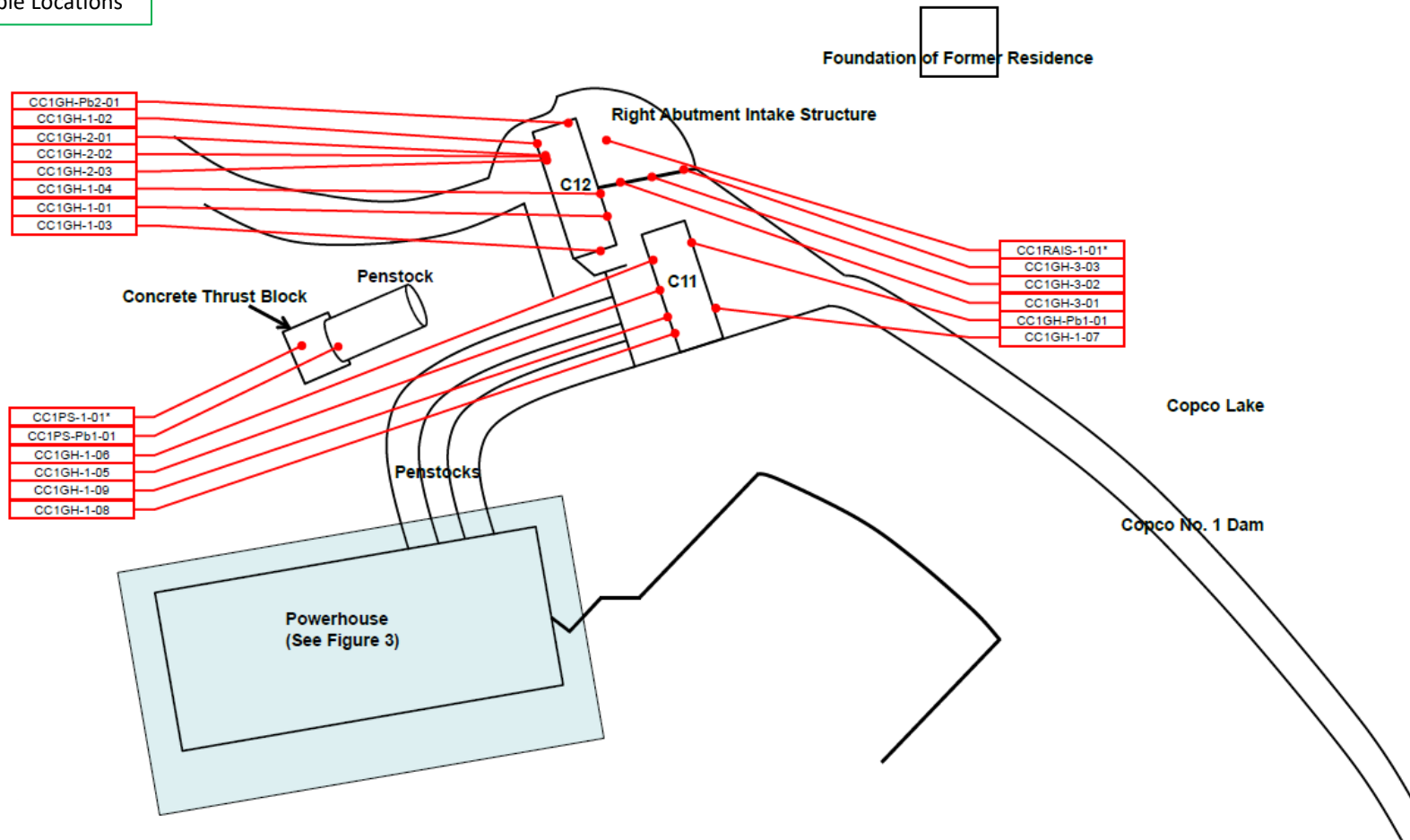
NV5
Klamath Dams
COPCO1 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO1 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO1

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations

Residence Shed

Groundwater Pumphouse

CC1GWPH-Pb1-01



CC1RS-Pb1-01

CC1RS-1-01

CC1RS-1-02

CC1RS-1-03

CC1RS-2-01

CC1RS-2-02

CC1RS-2-03

NV5
Klamath Dams
COPCO1 Dam
Hornsbrook, CA

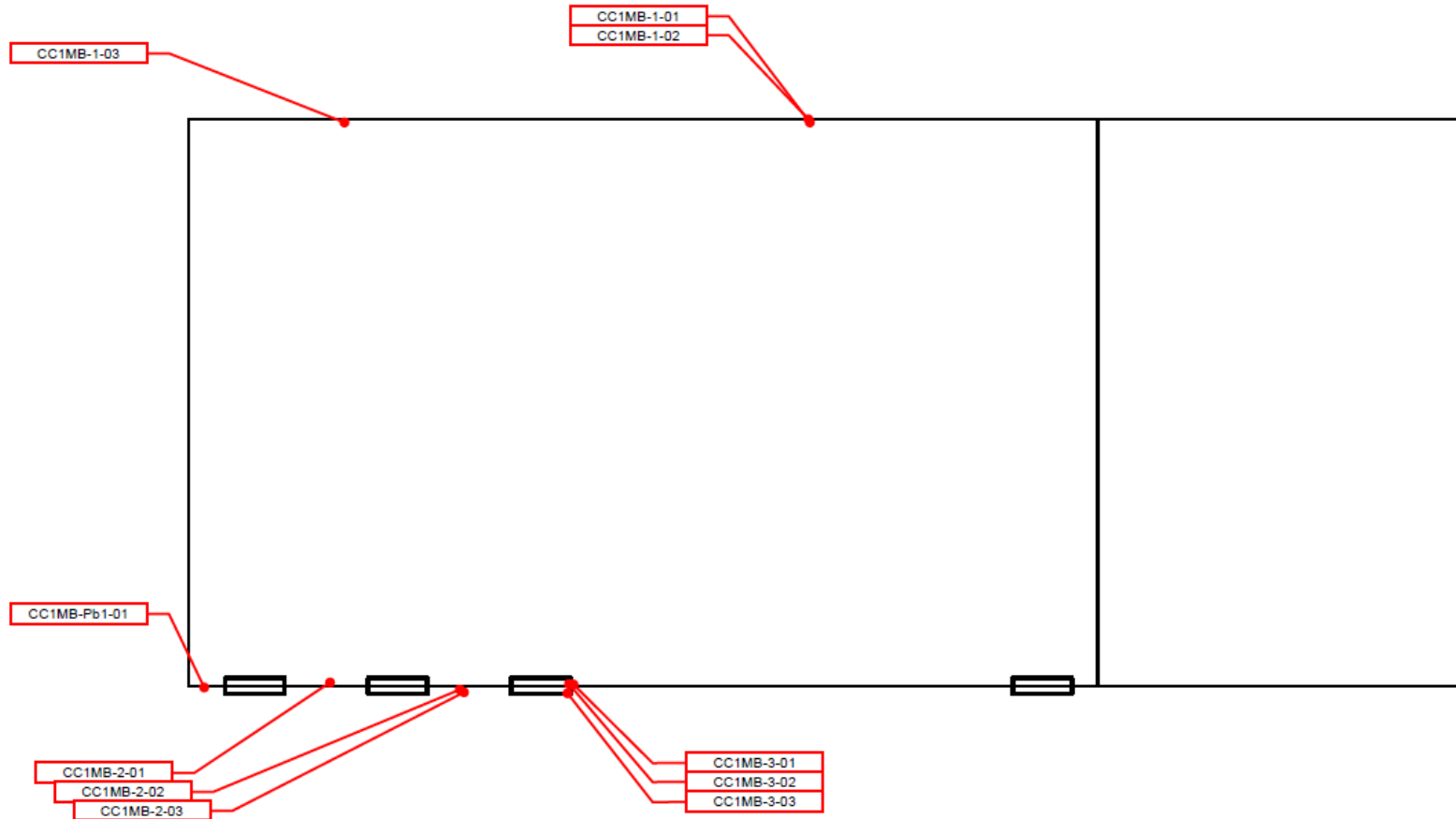
Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO1

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO1 Dam
Hornsbrook, CA

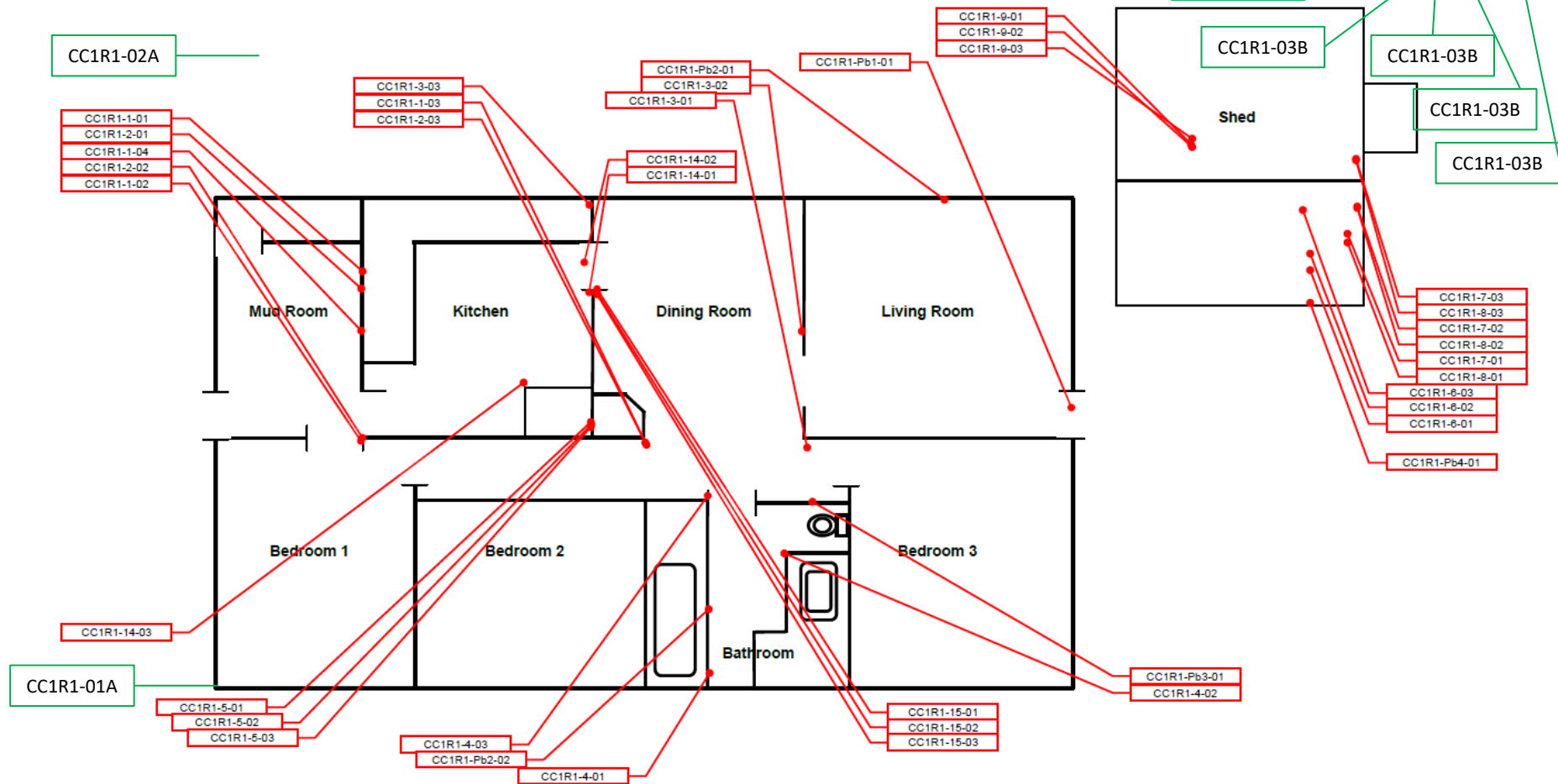
Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO1

Asbestos and Lead Bulk Sample Locations
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AECOM Sample Locations

Entek Sample Locations



NV5
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Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO1

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations

- CC1R2-3-01
- CC1R2-4-01
- CC1R2-3-02
- CC1R2-4-02
- CC1R2-2-03

CC1R2-1-02
CC1R2-2-02

CC1R2-1-03

CC1R2-05A

CC1R2-05B

Garage

CC1R2-1-01

CC1R2-01A

CC1R2-04A

CC1R2-03B

CC1R2-3-03
CC1R2-4-03

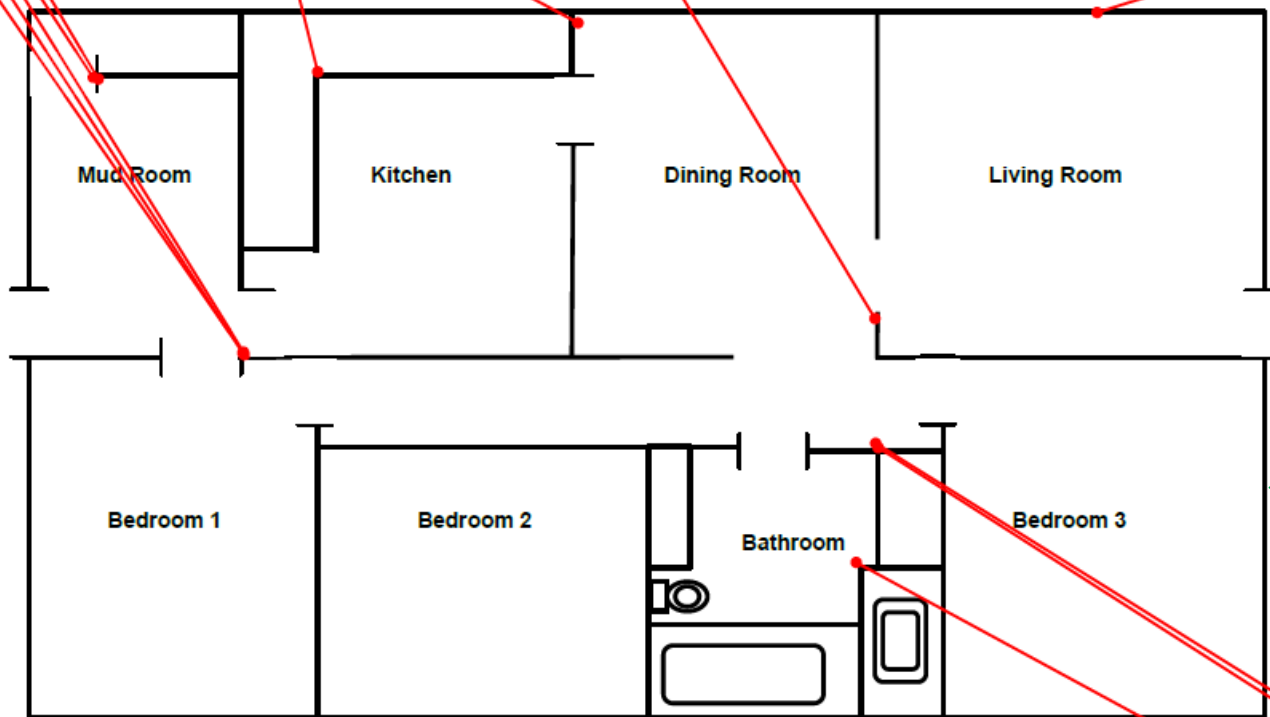
CC1R2-2-01

CC1R2-02A

CC1R2-03A

CC1R2-01Pb

CC1R2-02B



NV5
Klamath Dams
COPCO1 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO1

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562



APPENDIX D

BACK UP DOCUMENTATION

- Inspector Accreditations and Certifications
- Laboratory Accreditations for Asbestos and Lead Analysis

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Andrew R Roed

Name



Certification No. **16-5695**

Expires on **08/17/21**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



Andrew Roed

CERTIFICATE TYPE:

Lead Inspector/Assessor

NUMBER:

LRC-00002989

EXPIRATION DATE:

9/11/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101442-0

ASBESTECH
Carmichael, CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2020-07-01 through 2021-06-30

Effective Dates



A handwritten signature in dark ink, appearing to read "Dana S. Leaman".

For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, CA 95608
Mr. Tommy Conlon
Phone: 916-481-8902 Fax: 916-481-3975
Email: asbestech@sbcglobal.net
<http://www.asbestechlab.com>

ASBESTOS FIBER ANALYSIS

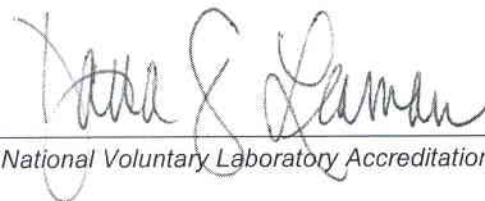
NVLAP LAB CODE 101442-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.


For the National Voluntary Laboratory Accreditation Program



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

Asbestech

6825 Fair Oaks Boulevard

Carmichael, CA 95608

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1153**

Expiration Date: **3/31/2022**

Effective Date: **4/1/2020**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



**CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing**



Asbestech

6825 Fair Oaks Boulevard
Carmichael, CA 95608
Phone: 9164818902

Certificate No. 1153
Expiration Date 3/31/2022

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010 001	Bulk Asbestos	EPA 600/M4-82-020
-------------	---------------	-------------------



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: 178697

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE**
- ✓ **ENVIRONMENTAL LEAD**
- ✓ **ENVIRONMENTAL MICROBIOLOGY**
- ☐ **FOOD**
- ☐ **UNIQUE SCOPES**

Accreditation Expires: September 01, 2021

Accreditation Expires: September 01, 2021

Accreditation Expires: September 01, 2021

Accreditation Expires:

Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/01/2011

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte <i>(for internal methods only)</i>
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 07/01/2005

EMLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Direct Examination	EM-MY-S-1038	Preparation and Analysis of Spore Trap (Air) Samples for Fungal Spores, Other Biological and Non-Biological Particles
	Bulk - Direct Examination	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
	Surface - Direct Examination	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk, and Dust - Soil Samples for Quantitative Direct Microscopic Examination
Bacterial	Legionella	EM-BT-S-1045	Enumeration of Legionella. International Standard ISO 11731:2017
		EM-BT-S-1687	CDC Laboratory protocol 2016

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 03/01/2017

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (for internal methods only)
Paint		EPA SW-846 7000B Modified	
		NIOSH 7082	
Settled Dust by Wipe		EPA SW-846 7000B Modified	
		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>



APPENDIX E

HISTORICAL SURVEY DOCUMENTATION

- AECOM Technical Services, Inc. Report Dated April 2019



Klamath River Renewal Project

Copco No. 1 Development
Hazardous Building Materials Survey

April 2019



Prepared for:

Klamath River Renewal Corporation

Assessment Conducted by:

AECOM Technical Services, Inc.

300 Lakeside Drive, Suite 400
Oakland, California 94612

Assessment Personnel

Mr. David Simon

State of California Certified Asbestos Consultant (CAC)

Number: 92-005 (exp. 6/24/2019)

Ms. Shannon MacKay (assisted with documentation)

AHERA-Certified Building Inspector

Number: CA-015-06 (exp. 1/15/2020)

Assessment Dates

September 10, 11, and 18, 2018 and December
19, 2018

Report Prepared by:



Shannon MacKay
Environmental Consultant

Report Reviewed by:



David Simon
State of California Certified Asbestos Consultant
(CAC)



Nicole Gladu
EHS Compliance Manager

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Figure 1 Aerial Site Photo

Asbestos and Lead Sample Locations:

Figure 2	Copco No. 1 Development, Right Abutment Intake Structure, Gatehouses C11 and C12, Foundation of Former Residence, and Penstocks
Figure 3	Powerhouse Ground Level and Emergency Spill Equipment Shed
Figure 4	Maintenance Building
Figure 5	Former Residence 1 and Detached Shed
Figure 6	Former Residence 2
Figure 7	Residence Shed and Groundwater Pumphouse

Approximate ACM Locations:

Figure 8	Powerhouse Ground Level
Figure 9	Powerhouse Basement Level
Figure 10	Former Residence 1 and Detached Shed
Figure 11	Former Residence 2
Figure 12	Copco No. 1 Development, Right Abutment Intake Structure, Gatehouses C11 and C12, Foundation of Former Residence, and Penstocks

List of Appendices

Appendix A	Figures
Appendix B	HSA Photologs
Appendix C	Laboratory Analytical Results
Appendix D	Personnel and Laboratory Certifications

Acronyms and Abbreviations

ACM	Asbestos-Containing Material
ACCM	Asbestos-Containing Construction Material; Material which contains more than 0.1% asbestos
AECOM	AECOM Technical Services, Inc.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tank

CAC	California Certified Asbestos Consultant
CAB	Cement Asbestos Board
CAL/OSHA	California Occupational Safety and Health Administration
CC1	Copco 1 Development
CC2	Copco 2 Development
CCR	California Code of Regulations
CDPH	State of California Department of Public Health
CSST	California Certified Site Surveillance Technician
CFR	Code of Federal Regulations
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
HEPA	High Efficiency Particulate Air
HSA	Homogenous Sampling Area
IGD	Iron Gate Development
IGH	Iron Gate Hatchery
JCB/JC	J.C. Boyle Development
KHSA	Klamath Hydroelectric Settlement Agreement
KRRC	Klamath River Renewal Corporation
LCP	Lead-Containing Paint
mg/kg	milligrams per kilogram
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOA	Naturally Occurring Asbestos
NVLAP	National Voluntary Laboratory Accreditation Program
O&M	Operations & Maintenance
PACM	Presumed Asbestos-Containing Material
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
RM	river miles
SCAPCD	Siskiyou County Air Pollution Control District
SCDPH	Siskiyou County Department of Public Health
T8	Title 8
USEPA	United States Environmental Protection Agency

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Executive Summary

EXECUTIVE SUMMARY

Project Background:

AECOM Technical Services (AECOM) was retained by Klamath River Renewal Corporation (KRRC) to conduct a Hazardous Building Materials Survey (HBMS) of the Copco No. 1 Development. This report includes the findings of the HBMS conducted at the Copco No. 1 Development and associated support buildings and structures on September 10, 11, and 18, 2018 and December 19, 2018. The Copco No. 1 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp Energy.

The Copco No. 1 Development and original supporting structures were constructed between 1911 and 1922 and are located between RM 208 and RM 201.6, in Siskiyou County, California. The Copco No. 1 address is listed as “25 miles East on Copco Road, Hornbrook, California 96044”.

The Copco No. 1 Development impounds a reservoir of approximately 972 acres (aka Copco Lake). Main features at Copco No. 1 include the reservoir, concrete dam, gated spillway, diversion tunnel, intake structure, penstocks, gatehouses, and a powerhouse. Other supporting structures include a switchyard on the bluff above the dam, two former residences, sheds, and a maintenance building which is currently used as storage.

Four dams and associated structures including the J. C. Boyle Development, Copco No. 1 Development, Copco No. 2 Development, Iron Gate Development and the Iron Gate Fish and Fall Creek Hatcheries (the Sites) have been identified for decommissioning and removal under the 2016 Amended Klamath Hydroelectric Settlement Agreement (KHSA, 2016) following the U.S. Department of the Interior Bureau of Reclamation’s Detailed Plan for Dam Removal – Klamath River Dams, Klamath Hydroelectric Project FERC License No. 2082 Oregon – California (Detailed Plan) (USBR 2012). The Iron Gate Fish Hatchery, Fall Creek Fish Hatchery, and the City of Yreka Diversion Dam have been identified for improvements under the KHSA. All four developments will be transferred to their respective states after dam decommissioning and removal.

The Sites are located on land currently owned by PacifiCorp. An HBMS was conducted at each of the seven Sites, and an HBMS report issued for the Sites as follows:

1. J.C. Boyle Development
2. Copco No. 1 Development
3. Copco No. 2 Development
4. Iron Gate Development
5. Iron Gate and Fall Creek Hatcheries
6. City of Yreka Diversion

Hazardous Building Materials Survey:

AECOM assessed Copco No. 1 Development and support facilities for the following hazardous building materials:

- Asbestos-containing materials (ACMs);
- Asbestos-containing construction materials (ACCMs);
- Assumed asbestos-containing materials;
- Lead-containing coatings (paints);
- Mercury-containing light tubes, switches, and thermostats;
- Polychlorinated Biphenyl (PCB)-containing caulking, putties, gaskets, and membranes;
- Suspected high-intensity discharge (HID) lamps; and
- Suspected PCB-containing fluorescent light ballasts and transformers.

Objective:

The objective of the HBMS was to provide information regarding the presence of lead-containing coatings, PCB-containing light ballasts, PCB-containing caulking, and mercury-containing sources, and the presence, location, and quantity of ACMs, ACCMs, and assumed ACMs, and for the purposes of decommissioning planning.

Summarized HBMS Results:

One hundred eighty-eight bulk samples of suspect asbestos-containing materials were collected and analyzed using Polarized Light Microscopy (PLM) during this assessment. Six materials (HSAs) were found to contain detectable asbestos above 0.1%, sixteen materials were assumed to contain asbestos, and three materials were visually assessed and determined to be non-suspect. Per the EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements and the analytical results, four sample layers were further analyzed using PLM Point Count Method.

In addition, four concrete bulk samples were collected and analyzed using PLM California Air Resources Board (CARB) 435 method to determine the content of Naturally Occurring Asbestos (NOA). No concrete samples were found to contain detectable NOA above the PLM point count threshold of 0.25%.

Sixteen paint chip samples were collected and analyzed for total lead content using Atomic Absorption Spectrophotometry; fifteen of the samples were found to contain reportable levels of lead.

Mercury-containing fluorescent light tubes, HID lamps, and magnetic light ballasts labeled "No-PCBs" were observed during the assessment. Three PCB-containing transformers were observed during the assessment. One caulking sample was collected and analyzed for PCBs using EPA method 8270 by gas chromatography/mass spectrometry (GCMS). No PCBs were detected in the caulking sample.

See Section 4.5: Tables for tabulated HBMS Results.

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Chapter 1: Introduction

1. INTRODUCTION

1.1 Project Description

AECOM Technical Services (AECOM) was retained by KRRC to conduct an HBMS of the Copco No. 1 Development and support facilities. This report includes the findings of the HBMS conducted at the Copco No. 1 Development and associated support buildings and structures on September 10, 11, and 18, 2018 and December 19, 2018. The Copco No. 1 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp.

1.2 Survey Limitations

The conclusions of this report are AECOM's professional opinions, based solely upon visual site observations and interpretations of laboratory analyses, as described in this report. The opinions presented herein apply to the site conditions existing at the time of AECOM's assessment and interpretation of current regulations pertaining to asbestos, lead-containing paint, PCB-containing ballasts and building materials, and mercury-containing components. Therefore, AECOM's opinions and recommendations may not apply to future conditions that may exist at the site which we have not had the opportunity to evaluate. All applicable state, federal, and local regulations should always be verified prior to any work that will disturb materials containing asbestos and other hazardous building materials.

AECOM has performed the services set forth in the Scope of Work in accordance with generally accepted industrial hygiene practices in the same or similar localities, related to the nature of the work accomplished, at the time the services were performed.

Additional sampling needs to be conducted of structures not assessed and inaccessible areas prior to demolition. Suspect regulated building materials throughout the Copco No. 1 Development and support facilities that are not included in this regulated building materials assessment are assumed to be asbestos-containing unless they are sampled by a Certified Asbestos Consultant (CAC) or a Certified Site Surveillance Technician (CSST) and analyzed by a State of California Environmental Laboratory Accreditation (ELAP)-licensed laboratory that is also a National Voluntary Laboratory Accreditation Program (NVLAP)-accredited laboratory to confirm the presence of asbestos prior to the disturbing such materials.

The regulated building materials and conditions presented in this report represent those observed on the dates we conducted the sampling. This sampling is intended for the exclusive use of KRRC for specific application to the proposed decommissioning. This assessment is not intended to replace construction or demolition plans, specifications, or bidding documents. This report is not meant to represent a legal opinion.

This report was prepared pursuant to an agreement between KRRRC and AECOM and is for the exclusive use of KRRP. No other party is entitled to rely on the conclusions, observations, specifications, or data contained herein without first obtaining AECOM's written consent and provided any such party signs an AECOM-generated Reliance Letter. A third party's signing of the AECOM Reliance Letter and AECOM's written consent are conditions precedent to any additional use or reliance on this report.

The passage of time may result in changes in technology, economic conditions, site variations, or regulatory provisions, which would render the report inaccurate. Reliance on this report after the date of issuance as an accurate representation of current site conditions shall be at the user's sole risk.

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Chapter 2: Scope of Services

2. SCOPE OF SERVICES

2.1 Asbestos Assessment

Mr. David Simon, a California Certified Asbestos Consultant (CAC), (Certification 92-005, expiration date: 6/24/2019) performed the sampling at the Copco No. 1 Development and support buildings on September 10, 11, and 18, 2018 and on December 19, 2018. Ms. Shannon MacKay, an Asbestos Hazard Emergency Response Act (AHERA)-accredited building inspector (Certification CA-015-06, expiration date: 1/15/2020), assisted in documenting the inspection, but did not perform sampling. Copies of their certifications are included in Appendix D.

The following materials/areas were inaccessible during the site work and should be assumed to contain asbestos until such time as the area becomes accessible and is sampled by a CAC or CSST and analyzed by a State of California ELAP-licensed NVLAP-accredited laboratory:

- Switchyard

2.1.1 Methodology

This assessment was conducted using a modified protocol adapted from AHERA. The protocol is as follows:

- Identify suspect asbestos-containing materials.
- Group materials into homogeneous sampling areas/materials.
- Quantify each homogeneous material and collect representative samples. The number of samples collected of miscellaneous materials was determined by the inspector.
- Samples of each material were taken to the substrate, ensuring that all components and layers of the material were included.
- Sample locations are referenced on the field data forms according to sample number.
- Sampling was performed by a CAC or CSST, and the use of proper protective equipment and procedures was followed.

2.1.2 Naturally Occurring Asbestos

For informational purposes, AECOM collected samples of concrete and submitted them to EMSL Laboratories to analyze for NOA. The sampling was conducted as a preliminary screen for NOA. Sampling was conducted discretely in areas where damage to concrete was already present. Future sampling for NOA may be necessary to fulfill California State regulatory requirements for NOA, and should be conducted when more destructive sampling of the concrete is possible.

2.2 Sampling Procedures

This sampling was conducted using the following procedures:

1. Spread the plastic drop cloth (if needed) and set up other equipment, e.g., ladder.
2. Don protective equipment (respirator and protective clothing if needed).
3. Label sample container with its identification number and record number. Record sample location and type of material sampled on a sampling data form.
4. Moisten area where sample is to be extracted (spray the immediate area with water).
5. Extract sample using a clean knife, drill capsule, or cork boring tool to cut out or scrape off approximately one tablespoon of the material. Penetrate all layers of material.
6. Place sample in a container and tightly seal it.
7. Wipe the exterior of the container with a wet wipe to remove any material that may have adhered to it during sampling.
8. Clean tools with wet wipes and wet mop; or vacuum area with HEPA vacuum to clean all debris.
9. Discard protective clothing, wet wipes and rags, cartridge filters, and drop cloth in a labeled plastic waste bag.

AECOM inspected the buildings and structures for suspect ACM including thermal systems insulation, surfacing materials, and miscellaneous materials (e.g., floor tiles, ceiling tiles). When materials suspected of containing asbestos were identified, AECOM's inspectors collected representative bulk samples from each Homogeneous Sampling Area using the protocol presented in the Table 2-1:

Table 2-1 Suspect ACM Sampling Protocol

Suspect ACM Sampling Protocol		
Homogeneous Sampling Area (HSA) Category	HSA Size	Minimum Number of Samples
Surfacing Materials	1,000 SF or Less	3
	1,001-5,000 SF	5
	>5,000 SF	7 or more
Thermal System Insulation (TSI)	No Stipulation	3 of each type of TSI. (Must also sample all repair patches)
Miscellaneous Materials	No Stipulation	3 samples of each miscellaneous material

A Homogeneous Sampling Area is defined to include surfacing materials, thermal systems insulations, and miscellaneous materials, which are uniform in color, texture, construction and application date, and general appearance.

Additional suspect ACMs may be present in inaccessible or concealed spaces. These spaces include, but are not limited to, areas not assessed, areas not accessible at the time of the assessment, fire doors, electrical systems, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components, beneath foundation pads, etc. If future maintenance, renovation, and/or demolition activities make these areas accessible, AECOM recommends that a thorough assessment of these spaces be conducted at that time to identify and confirm the presence or absence of additional suspect ACMs. Until then, all such unidentified materials must be treated as assumed ACMs in accordance with applicable federal, state, and local regulations.

AECOM did not sample suspect ACM in the following circumstances:

- The AECOM inspector could not safely access the material for sampling;
- The residence was still occupied;
- The AECOM inspector concluded that the materials were inaccessible for sampling; or
- The AECOM inspector determined that destructive sampling would compromise the integrity of the material and/or the structure.

2.3 Sampling and Analysis

EPA NESHAP (40 CFR 61, Subparts A and M) also has requirements related to the assessment of suspect ACM in buildings. NESHAP defines a “friable” material to be a material that when dry, can be crumbled, pulverized, or reduced to powder with hand pressure or by the forces expected to act on the material in the course of demolition or renovation activities. AECOM applied this NESHAP definition of friable for the purposes of determining which analytical method to use to quantify the asbestos content of a specific material.

The collected samples of suspect ACM were analyzed by NVL Laboratories, Inc. for asbestos content using the PLM visual estimation method and the PLM Point Counting Method. NVL Laboratories, Inc. is accredited for these asbestos analytical methods by the State of California ELAP and the NVLAP. Appendix D contains NVL Laboratories, Inc.’s certificate of laboratory accreditation and licensure. The collected samples of suspect NOA in concrete were analyzed by EMSL Analytical, Inc. for asbestos content using PLM CARB Method 435. EMSL Analytical, Inc. is accredited for these asbestos analytical methods by the State of California ELAP. Appendix D contains EMSL Analytical, Inc.’s certificate of laboratory accreditation and licensure.

Polarized Light Microscopy (PLM)

The PLM method is a visual estimation of the asbestos content of a sample. The PLM analysis was performed by NVL Laboratories, Inc. following the United States Environmental Protection Agency’s (USEPA) PLM method EPA-600R/M4-82-020 for determining asbestos content in bulk building materials.

Polarized Light Microscopy Point Count (PLM Point Count)

According to the NESHAP, when the asbestos content of a friable material is visually estimated by the PLM visual technique to be detectable but less than 10%, the inspector may either (1) assume that the amount is greater than 0.1% and treat the material as ACCM or (2) conduct a second analysis, the PLM Point Count Method EPA/600-R93/116, to verify the percentage of asbestos in the material.

Per NESHAP, AECOM used the results of the PLM visual method analyses for friable materials to determine whether additional laboratory analysis was warranted (i.e., PLM Point Count), or whether the material would be treated as ACCM. Based on PLM analytical results, four samples were further analyzed by PLM Point Count analysis (See Appendix C).

If the results obtained by PLM Point Count Method and the PLM visual estimation method are different, the PLM Point Count result is used. When no asbestos is detected by the first PLM visual method, the additional technique using PLM Point Count Method is not required. The analytical results are reported in percent asbestos as derived from a 1000 point counting technique, which yields a detection limit of 0.1%.

Naturally Occurring Asbestos (NOA)

Asbestos fibers may be released from serpentine rock formations. The CARB 435 method is used to determine the asbestos content of serpentine aggregate, or NOA, in concrete, storage piles, on conveyor belts, and on surfaces such as road beds, road shoulders, and parking lots. Samples are crushed using a mill to produce a material of which the majority is less than 200 Tyler mesh (0.75 microns). CARB defines NOA as having >0.25% asbestos by PLM point counting. The analytical results are reported in percent asbestos as derived from a 400 PLM point counting technique, which yields a detection limit of 0.25%.

2.4 Lead Assessment

2.4.1 Sampling Methodology

Homogeneous painted surfaces were defined by substrate, application, and color. The paint chip samples were collected to the substrate to ensure that all layers present on the substrate were included in the laboratory analysis. The samples were collected and stored in a heavy-duty, self-sealing plastic bag and delivered to NVL Laboratories in Seattle, Washington. The samples were analyzed via Atomic Absorption Spectrophotometry in accordance with Method EPA 7000B. NVL Laboratories in Seattle, Washington is accredited by American Industrial Hygiene Association (AIHA) for lead analysis and by the California Environmental Laboratory Accreditation Program (ELAP).

Lead paint chip samples were collected from industrial and operational buildings or from former residences that will no longer be occupied; all structures assessed are planned for decommissioning.

2.5 Other Regulated Building Materials

2.5.1 Universal Waste Inventory Methodology

An inventory of fluorescent light tubes, HID lamps, mercury-containing sources, and potential PCB-containing ballasts was conducted in accessible Project Areas.

Where fluorescent light fixtures were accessible, the ballast covers were removed, and the ballast labels were visually examined. Where fluorescent light fixtures could not be visually examined, the number of potential PCB-containing ballasts in each fixture was estimated based on the following assumptions:

- Each single light tube fluorescent fixture contains one ballast;
- Each HID lamp contains one ballast and one mercury bulb;
- Each multiple light tube fluorescent fixture contains one ballast for every pair of light tubes; and
- All light ballasts are assumed to contain PCBs unless the ballasts are labeled as not containing PCBs or are determined to be electronic.

Fluorescent light tubes, HID lamps, fluorescent light fixtures and PCB-containing transformers were identified in the buildings in the quantities listed in Table 4-4.

2.5.2 PCB-Containing Caulking

Suspected PCB-containing caulking samples were collected in the same manner as suspected asbestos-containing bulk samples. Each sample was collected and stored in a glass jar and delivered to Fremont Analytical, Inc. in Seattle, Washington. Samples were analyzed via Gas Chromatography in accordance with EPA Method 8270, "Polychlorinated Biphenyls (PCBs) by Gas Chromatography/Mass Spectrometry". Fremont Analytical, Inc. in Seattle, Washington is accredited by the National Environmental Lab Accreditation program as administered by the National Laboratory Accreditation Committee for analysis of PCBs by EPA Method 8270 (reporting in parts per million). Analytical results are presented in Table 4-5.

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Chapter 3: Site Description

3. SITE DESCRIPTION

3.1 Copco No. 1 Development

AECOM Technical Services (AECOM) was retained by Klamath River Renewal Corporation (KRRC) to conduct a Hazardous Building Materials Survey (HBMS) of the Copco No. 1 Development. This report includes the findings of the HBMS conducted at the Copco No. 1 Development and associated support buildings and structures on September 10, 11, and 18, 2018 and December 19, 2018. The Copco No. 1 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp.

The Copco No. 1 Development and original supporting structures were constructed between 1911 and 1922 and are located between RM 208 and RM 201.6, in Siskiyou County, California. The Copco No. 1 address is listed as “25 miles East on Copco Road, Hornbrook, California 96044”.

The Copco No. 1 Development impounds a reservoir of approximately 972 acres (aka Copco Lake). Main features at Copco No. 1 include the reservoir, concrete dam, gated spillway, diversion tunnel, intake structure, penstocks, gatehouses, and a powerhouse. Other supporting structures include a switchyard on the bluff above the dam, two former residences, sheds, and a maintenance building which is currently used as storage.

3.1.1 Description of Copco No. 1 Development Structures

The following Copco No. 1 Development support structures were assessed during the HBMS:

Dam, Gatehouses, and Right Abutment Intake Structure Structure (CC1GH and CC1RAIS)

The Dam, Gatehouses, and Right Abutment Intake Structure were assessed together. The two gatehouses were labeled C11 Gatehouse and C12 Gatehouse. The dam is a concrete gravity arch dam and is constructed of poured concrete with dam operating machinery including dam mules and tracks located at the top of the dam. The dam structure is approximately 135 feet tall and has a 492 foot radius at the upstream face. The Right Abutment Intake Structure is located on the west end of the dam; a portion of the Intake Structure is accessed through a metal grating that opens above the water and was not accessed during the HBMS due to safety reasons. Gatehouses C11 and C12 are approximately 570 square feet and 700 square feet, respectively. Both gatehouses are single story slab on grade structures with exterior stucco siding and copper shingle roofing. The interior of both gatehouses house dam operating machinery and are constructed of concrete walls and floors and an unfinished wood plank ceiling. The dam and associated equipment are currently in operation.

Emergency Spill Equipment Shed (CC1ES)

The Emergency Spill Equipment Shed is adjacent to the Powerhouse, is approximately 100 square feet, and is a single story slab on grade shed, with engineered wood siding and asphaltic shingle roofing. The interior of the shed is unfinished wood. The structure is currently being used as storage for emergency spill equipment purposes.

Foundation of Former Residence (CC1FFR)

The Foundation of Former Residence is located on a bluff west of the Copco Lake reservoir and consists of the remains of a burned down residence. The structure includes a river rock foundation and chimney. The structure overlooks the reservoir and was inaccessible during the HBMS due to a combination of washed away hillside and poison oak. The structure is not used.

Groundwater Pumphouse (CC1GWPH)

The Groundwater Pumphouse is located across the street and southeast of former Residence 2. The structure is approximately 50 square feet and is a single story slab on grade structure. The exterior of the structure consists of corrugated metal siding and roofing and the interior is unfinished. The structure is currently being used to house the groundwater well head and chlorine tanks for groundwater chlorination.

Maintenance Building (CC1MB)

The Maintenance Building is approximately 1,500 square feet and is a single story pile dwelling constructed on the side of a hill. The exterior of the structure consists of wood siding and corrugated metal roofing. The interior of the structure consists of unfinished wood throughout all surfaces. The structure is currently being used for storage.

Penstocks (CC1PS)

The Penstocks divert water from the Copco Lake reservoir and feed into the Powerhouse. They are approximately 10 feet to 14 feet in diameter and are constructed of steel and encased in places with concrete thrust blocks.

Powerhouse (CC1PH)

The Powerhouse is located below the dam embankment, south of the dam. The Powerhouse footprint is approximately 10,500 square feet. The structure consists of a main ground level floor and a subgrade basement. The exterior of the structure is constructed of corrugated metal siding and roofing. The interior of the structure consists of poured concrete walls and exposed metal roofing. The Powerhouse is currently operational and houses mechanical equipment including turbines, transformers, generators, and penstock intakes.

Residence 1 (CC1R1)

Residence 1 is a former residence that is no longer occupied, and is the main structure on the associated property. The structure is approximately 1,120 square feet and is a single story structure with a crawl space foundation. The exterior of the structure is constructed of aluminum siding and corrugated metal roofing over wood shake shingle roofing. The interior finishes of the structure consists of wood walls and ceilings and tack-down carpeting and vinyl floor sheeting. An attic space is insulated with blown-in cellulose insulation. A walled-in chimney extends through the middle of the main structure. A detached shed associated with the former residence is located within the yard and is approximately 456 square feet. The exterior of the shed is constructed of aluminum siding and asphaltic shingle roofing over wood shake shingle roofing.

Residence 2 (CC1R2)

Residence 2 is a former residence that is no longer occupied. The structure is approximately 1,120 square feet and is a single story structure with a crawl space foundation. The exterior of the structure is constructed of aluminum siding and corrugated metal roofing. The interior finishes consist of wood walls and ceilings and tack-down carpeting and vinyl floor sheeting. An attic space is insulated with blown-in cellulose and fiberglass batt insulation. A walled-in chimney extends through the middle of the structure.

Stop Log Shed (CC1SLS)

The Stop Log Shed is approximately 200 square feet and is an open air, wooden framed, slated floor, corrugated metal roof shed with creosote treated wooden stop logs.

Switchyard (CC1SY)

The Switchyard is approximately 10,000 square feet, is located about 100 feet east of the Maintenance Building, and is contained by a chain link fence. The Switchyard contains electrical transformers, substations, isolators, and other associated electrical equipment. Power poles within the Switchyard appear to be treated with creosote. The Switchyard is currently in operation and was not entered during the survey due to safety concerns. A small metal structure is located on the east corner of the Switchyard.

Residence Shed (CC1RS)

The Residence Shed is an approximately 300 square feet open air, wooden framed, slated floor, corrugated metal roof shed.

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Chapter 4: Conclusions and Recommendations

4. CONCLUSIONS AND RECOMMENDATIONS

On September 10, 11, and 18, 2018 and December 19, 2018, AECOM conducted a Hazardous Building Materials Survey of the Copco No. 1 Development located in Hornbrook, California. AECOM assessed the site buildings for a variety of regulated building materials that would require removal or special handling during decommissioning and demolition. Section 4.5: Tables includes the tabulated results of the survey. The following are AECOM's general recommendations related to the HBMS findings:

- Plans and specifications should be developed by an appropriately qualified professional (e.g., CAC) to outline the planned scope of work, phasing, training and certification requirements, policies and procedures for the proper handling, removal packaging, disposal/recycling, and transportation of the materials.
- The findings of this report should be communicated to contractors planning to work on or bid on work at the site,
- Additional material-specific recommendations as listed below.

4.1 Asbestos

One hundred eighty-eight bulk samples of suspect asbestos-containing materials were collected and analyzed using Polarized Light Microscopy (PLM) during this assessment. Six materials (HSAs) were found to contain detectable asbestos above 0.1%, sixteen materials were assumed to contain asbestos, and three materials were visually assessed and determined to be non-suspect. Per the EPA NESHAP requirements and the analytical results, four sample layers were further analyzed using PLM Point Count Method.

In addition, four concrete bulk samples were collected and analyzed using PLM CARB 435 method to determine the content of NOA. No concrete samples were found to contain detectable NOA above the PLM point count threshold of 0.25%.

The results of the analyses are presented in Section 4.5, Tables 4-1, 4-2, and 4-3. Appendix C contains the laboratory reports of analytical results for each discrete sample.

Additional suspect ACMs may be present in inaccessible or concealed spaces. These spaces include, but are not limited to; below grade exterior materials, electrical systems, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components, beneath foundation pads, etc. If future demolition activities make these areas accessible, AECOM recommends that a thorough assessment of these spaces be conducted at that time to identify and confirm the presence or absence of additional ACMs and ACCMs. Until then, all such unidentified materials must be treated as assumed ACMs in accordance with applicable federal, state, and local regulations.

If the analytical results indicate that all the samples collected per HSA do not contain asbestos, then the HSA (material) is considered a non-ACM. If the analytical results of one or more of the samples collected per HSA indicate that asbestos is present in quantities of greater than 0.1% asbestos as defined by Cal/OSHA, all of the HSA (material) is considered to be an ACM or ACCM regardless of any other analytical results.

Any material that contains greater than 0.1% asbestos is considered an ACCM and must be handled according to Cal/OSHA regulations. Any material greater than one percent asbestos is considered an ACM and must be handled according to EPA regulations, and applicable state and local regulations. The EPA NESHAP regulations (40 CFR 61, Subparts A and M) have a requirement related to assessment of suspect ACM in buildings. When the asbestos content of a friable material is visually estimated by PLM to be detectable but less than ten percent, your firm may elect to (1) assume the amount is greater than one percent and treat the material as asbestos-containing or (2) require verification of the amount by the PLM point counting technique. If the results obtained by point counting and visual estimation are different, the point count result must be used. When no asbestos is detected by PLM, point counting is not required.

4.1.1 Asbestos Regulations

Asbestos-related work must be performed in compliance with local, federal, and state regulations including Cal/OSHA, the Siskiyou County Air Pollution Control District, EPA NESHAP, and relevant federal, state and local regulations pertaining to handling of asbestos.

The EPA NESHAP regulations (Renovation and Demolition NESHAP 40 CFR 61, Subparts A and M) for asbestos apply to certain demolition and renovation projects in facilities containing ACM and/or assumed ACM. The NESHAP rule usually requires that all friable ACM and some categories of non-friable ACM be removed before a building is demolished, and may require localized removal prior to demolition. The following NESHAP definitions of ACM are very important in interpreting which NESHAP requirements may apply to your building:

- Friable asbestos-containing material: any material containing more than 1 percent asbestos that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable asbestos-containing material: asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

- Category II non-friable asbestos-containing material: any material excluding Category I non-friable ACM, containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Regulated asbestos-containing material (RACM): (1) friable ACM, (2) Category I non-friable ACM that has become friable (3) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (4) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the materials in the course of demolition or renovation operations regulated by NESHAP.

NESHAP also requires that the local air district be notified before certain renovations or demolition impacting RACM begin. When ACCM is removed or disturbed during demolition or renovation, the Cal/OSHA regulations also apply. The NESHAP regulations should be studied in detail for a thorough delineation of these and other requirements.

Cal/OSHA regulates employee exposure to asbestos (T8, CCR 1529). The Cal/OSHA asbestos standards mandate a permissible exposure limit (PEL) of 0.1 fibers (equal to or longer than 5 micrometers) per cubic centimeter of air (fibers/cc) determined as an 8-hour, time-weighted average (TWA) and an excursion limit of 1 fiber/cc as a 30-minute TWA.

Also, for asbestos removal or renovation involving ACM, the Cal/OSHA Asbestos Construction Standard (T8, CCR 1529) requires that specific procedures be followed, including enclosure of the work area to control asbestos exposure of building occupants, as well as, employees involved in abatement or renovation activities.

The following are selected Cal/OSHA definitions regarding asbestos work:

- **Class I asbestos work** means activities involving the removal of TSI and surfacing ACM and PACM.
- **Class II asbestos work** means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- **Class III asbestos work** means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.
- **Class IV asbestos work** means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.
- **Intact** means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that asbestos is no longer likely to be bound with its matrix.

AECOM identified materials that were assumed to contain asbestos, but were not assessed because the inspector determined them to be ACM, for the safety of the inspector and to preserve building system integrity.

During demolition activities, inaccessible materials may be uncovered which were not identified or sampled during this assessment. Personnel in charge of demolition should be alerted to note materials uncovered during these activities which were not identified in this report. The following are AECOM's recommendations:

- If the buildings are scheduled for abatement and demolition (AECOM's recommendation), an abatement project design manual should be prepared with technical specifications and abatement plans. The design must be prepared by a CAC.
- The results of this sampling should be communicated to any Contractors working in the Project Areas and a copy of the assessment report must be on-site during demolition activities.
- Abatement work must be performed by CA-licensed asbestos abatement contractor with trained asbestos workers and supervisors.
- Any concealed building materials discovered during demolition activities, which are suspected to contain asbestos, should be sampled by a CSST or CAC and analyzed by a NVLAP- and CA ELAP-accredited laboratory to confirm the presence of asbestos prior to disturbing such materials or be assumed to be ACM.
- If the facilities assessed during the HBMS are not scheduled for demolition, AECOM recommends the development of an O&M Plan by a CAC.

4.2 Lead

Sixteen paint chip samples were collected and analyzed for total lead content; fifteen of the paint chip samples were found to contain detectable levels of lead. The results of the analyses are presented in Section 4.5 Table 4-3. Appendix C contains the laboratory reports of analytical results for each discrete sample.

Cal/OSHA requires worker training, worker protection, and exposure assessments be conducted during operations that may disturb the lead-containing paint in such a way that the airborne exposure may reach or exceed the Action Level of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or the Permissible Exposure Limit of 50 $\mu\text{g}/\text{cm}^3$. The worker protection requirements of Cal/OSHA 1532.1 "Lead" apply.

4.3 Other Regulated Building Materials

Mercury-containing fluorescent light tubes and HID lamps were observed during the assessment. In the switchyard, the yellow glass portion of the high voltage transformer bushings may contain PCBs in the oil. One caulking sample was collected and analyzed for PCBs using EPA method 8270 by gas chromatography/mass spectrometry (GCMS). No PCBs were detected in the caulking sample.

Fluorescent light tubes, switches, and thermostats may contain mercury. Fluorescent light ballasts, transformer oil, and HID lamp ballasts may contain PCBs. PCB wastes are regulated by Department of Toxic Substance Control Act (DTSC) Title 22 CCR 66261.24, Resource Conservation Recovery Act (RCRA) Title 40 CFR 761, and Toxic Substance Control Act (TSCA) 15 USC 2695. DTSC has classified PCBs as a hazardous waste when the concentrations are equal to or greater than 5 mg/l in liquids or when the total concentrations are equal to or greater than 50 mg/kg in non-liquids (Title 22, CCR, 66261.24). If the PCB waste is greater than 50 mg/l, then it is also to be managed under the RCRA and TSCA requirements. Employers must inform their employees of mercury and PCB hazards in accordance with Cal/OSHA.

Light ballasts in representative locations were visually assessed where possible. All light ballasts observed during the course of the HBMS were electronic ballasts or magnetic ballasts labeled “No PCBs”. During the course of decommissioning or demolition activities, magnetic light ballasts may be discovered that are not labeled “No PCBs” and should be disposed of per DTSC requirements.

Fluorescent light tubes must be removed and recycled or disposed of as hazardous waste or universal waste prior to demolition as per 22 CFR 66261.50 and 66273.8.

The results of the Universal Waste Inventory are presented in Section 4.5 Table 4-5.

4.4 Treated Wood

Wood treated with creosote was observed in the following locations:

- Power poles throughout Copco No. 1 Development, including within the Switchyard
- Wood piles supporting the Maintenance Building
- Stop Log Shed
- Residence Shed

4.5 Tables

Table 4-1: Confirmed ACMs, ACCMs, and Assumed ACMs lists the HSAs (materials) that were tested and confirmed to contain greater than 0.1 percent asbestos as well as the HSAs that could not be tested and are assumed to contain asbestos. NESHAP categories and approximate quantities of each material are identified, when possible.

Table 4-2: Asbestos Sample Results by Layer lists the tabulated analytical results for each discrete asbestos sample, listed by building then by HSA. Confirmed ACMs, ACCMs and Non-ACMs are included.

Table 4-3: Visually Negative Materials lists the materials that were visually assessed and determined to be non-suspect.

Table 4-4: Lead Paint Sample Results lists the tabulated analytical results for each discrete lead paint sample.

Table 4-5: Universal Waste Inventory presents the tabulated approximate quantities of fluorescent light tubes, suspect PCB containing light ballasts, non-PCB containing magnetic light ballasts, HID Lamps, and PCB-containing transformers.

Table 4-6: PCB-Caulking Sample Results lists the tabulated analytical results for each PCB caulking sample.

Appendix A contains figures of structures, sampling locations, and asbestos-containing material locations.

Appendix B contains HSA Photologs, by building, then by HSA.

Appendix C contains the laboratory reports of analytical results for each discrete sample.

Appendix D contains personnel and laboratory certifications.

Table 4-1 Confirmed ACMs, ACCMs, and Assumed ACMs

Table 1: Confirmed ACMs, ACCMs, and Assumed ACMs								
Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-04	Assumed asbestos-containing square and circular gaskets on mechanical equipment	Throughout mechanical equipment (including on units in gatehouses and on dam mules)	Misc.	NF	Cat I	Assumed	~20 EA
Foundation of Former Residence	CC1FFR-01	Gray grout associated with river rock chimney	Chimney of burned down Foundation of Former Residence, inaccessible during inspection	Misc.	NF	Cat II	Assumed	Not quantified
Foundation of Former Residence	CC1FFR-02	Gray grout associated with river rock foundation	Foundation, inaccessible during inspection	Misc.	NF	Cat II	Assumed	Not quantified
Powerhouse	CC1PH-01	Assumed asbestos-containing white woven electrical wire insulation	Throughout both floors of Powerhouse, runs into wall and chases. Only visible at the basement level. Labeled with ACM stickers.	TSI	F	RACM	Assumed	Not quantified*
Powerhouse	CC1PH-02	Assumed asbestos-containing electrical panel backing in older transformers	Three transformers on main floor, east end	Misc.	NF	Cat II	Assumed	~3 EA
Powerhouse	CC1PH-04	Gray brittle window putty	Window panes throughout main floor, not including clerestory roof level windows (inaccessible - see HSA CC1PH-08)	Misc.	NF	Cat II	Positive	38 EA (~4'x5')
Powerhouse	CC1PH-06	Assumed asbestos-containing Cement Asbestos Board (CAB)	Panels in various places throughout the main floor and basement. Labeled with ACM stickers.	Misc.	NF	Cat II	Assumed	~6 EA (~2'x3')

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date; Surf.: Surfacing material per AHERA; TSI: Thermal system insulation per AHERA; Misc.: Miscellaneous material per AHERA; SF: Square Feet; EA: Each; Cat I: Category I per NESHAPS; Cat II: Category II per NESHAPS; RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Powerhouse	CC1PH-08	Assumed asbestos-containing window putty	Clerestory windows at roof level of Powerhouse	Misc.	–	–	Assumed	28 EA (~3x'5')
Powerhouse	CC1PH-09	Assumed asbestos-containing gaskets on 2" to 8" piping	Throughout Powerhouse piping and mechanical equipment	Misc.	F	RACM	Assumed	Not quantified*
Powerhouse	CC1PH-10	Assumed asbestos-containing rope gasket	On transformers on main level of Powerhouse	Misc.	F	RACM	Assumed	3 EA
Powerhouse	CC1PH-11	Assumed asbestos-containing wicket gates	Associated with turbines on main level of Powerhouse, inaccessible unless turbine is removed.	Misc.	NF	Cat I	Assumed	2 EA
Powerhouse	CC1PH-13	Assumed asbestos-containing metal-clad fire door insulation	Main floor of Powerhouse	Misc.	NF	Cat I	Assumed	2 EA
Residence 1	CC1R1-01	Asbestos-containing gray vinyl floor sheeting with white paper backing and mastic (M)	Flooring in dining room, kitchen, and mud room	Misc.	NF	Cat I	Positive	~400 SF
Residence 1	CC1R1-02	Beige vinyl floor sheeting with terrazzo pattern and paper backing with mastic	Flooring underneath HSA CC1R1-2, in dining room, kitchen, and mud room	Misc.	NF	Cat I	Positive	See HSA CC1R1-01
Residence 1	CC1R1-09	Yellow mastic	Residual mastic on plywood above garage rafters	Misc.	NF	Cat II	Positive	~15 SF

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date; Surf.: Surfacing material per AHERA; TSI: Thermal system insulation per AHERA; Misc.: Miscellaneous material per AHERA; SF: Square Feet; EA: Each; Cat I: Category I per NESHAPS; Cat II: Category II per NESHAPS; RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Residence 1	CC1R1-12	Assumed asbestos-containing gray chimney grout	Center of house, walled in with gypsum. Inaccessible at time of inspection	Misc.	NF	Cat II	Assumed	1 EA
Residence 1	CC1R1-13	Assumed asbestos-containing vapor barrier paper	Throughout exterior underneath metal siding	Misc.	—	—	Assumed	1,380 SF
Residence 1	CC1R1-14	Asbestos-containing black mastic behind wood wall paneling	Associated with wood wall paneling throughout dining room and living room	Misc.	NF	Cat II	Positive	~850 SF
Residence 2	CC1R2-01	White troweled-on surface coat	Plywood walls throughout living room and dining room	Surf.	F	RACM	Positive	~900 SF
Residence 2	CC1R2-05	Assumed asbestos-containing asphaltic woven electrical wire insulation	Throughout interior wall spaces and attic	Misc.	NF	Cat II	Assumed	Not quantified
Residence 2	CC1R2-06	Assumed asbestos-containing vapor barrier paper	Throughout exterior underneath metal siding	Misc.	—	—	Assumed	1,380 SF
Throughout Copco 1 Development	-	Assumed asbestos-containing buried Transite piping	A small portion of unburied Transite piping was observed at the Copco 2 development. Due to the proximity of Copco 1 to Copco 2, it is reasonable to assume that buried Transite piping also exists throughout the Copco 1 Development	Misc.	NF	Cat II	Assumed	Not quantified*

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date; Surf.: Surfacing material per AHERA; TSI: Thermal system insulation per AHERA; Misc.: Miscellaneous material per AHERA; SF: Square Feet; EA: Each; Cat I: Category I per NESHAPS; Cat II: Category II per NESHAPS; RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Table 4-2 Asbestos Sample Results by Layer

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-01	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-02	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-03	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-04	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-05	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-06	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-07	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-08	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12		2	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-1-09	1	Gray brittle stucco	Exterior walls of C11 and C12 Gatehouses	Surf.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-2-01	1	Black asphaltic roofing paper	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12		2	Black asphaltic roofing material	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-2-02	1	Black asphaltic roofing paper	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12		2	Black asphaltic roofing material	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-2-03	1	Black asphaltic roofing paper	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12		2	Black asphaltic roofing material	Underneath copper shingles roof of C11 and C12 Gatehouses	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-3-01	1	Gray sealant	Walkway expansion joints associated with the Gatehouses, the Right Abutment Intake Structure, and the Copco 1 Dam	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-3-02	1	Gray sealant	Walkway expansion joints associated with the Gatehouses, the Right Abutment Intake Structure, and the Copco 1 Dam	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12	CC1GH-3-03	1	Gray sealant	Walkway expansion joints associated with the Gatehouses, the Right Abutment Intake Structure, and the Copco 1 Dam	Misc.	---	None Detected
Copco No. 1 Dam and Gatehouses C11 and C12		2	Concrete	Walkway expansion joints associated with the Gatehouses, the Right Abutment Intake Structure, and the Copco 1 Dam	Misc.	---	None Detected
Emergency Spill Equipment Shed	CC1ES-1-01	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.	---	None Detected
Emergency Spill Equipment Shed	CC1ES-1-02	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.	---	None Detected
Emergency Spill Equipment Shed		2	Black asphaltic mastic	Roofing of Emergency Spill Equipment Building	Misc.	---	None Detected
Emergency Spill Equipment Shed	CC1ES-1-03	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Table 2: Asbestos Sample Results by Layer							
Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Maintenance Building	CC1MB-1-01	1	Black asphaltic vapor barrier paper	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic material	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building	CC1MB-1-02	1	Black asphaltic vapor barrier paper	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic vapor barrier paper	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building		3	Black asphaltic material	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building	CC1MB-1-03	1	Black asphaltic vapor barrier paper	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic vapor barrier paper	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building		3	Black asphaltic material	Underneath wood siding throughout exterior	Misc.	---	None Detected
Maintenance Building	CC1MB-2-01	1	Black asphaltic roofing paper	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic material	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building	CC1MB-2-02	1	Black asphaltic roofing paper	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic material	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building	CC1MB-2-03	1	Black asphaltic roofing paper	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building		2	Black asphaltic material	Underneath corrugated metal roof	Misc.	---	None Detected
Maintenance Building	CC1MB-3-01	1	White brittle window putty	Exterior window panes	Misc.	---	None Detected
Maintenance Building	CC1MB-3-02	1	White brittle window putty	Exterior window panes	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Maintenance Building	CC1MB-3-03	1	White brittle window putty	Exterior window panes	Misc.	---	None Detected
Powerhouse	CC1PH-4-01	1	Gray brittle window putty	Window panes throughout main floor, not including clerestory roof level windows (inaccessible - see HSA CC1PH-08)	Misc.	3%	Chrysotile
Powerhouse	CC1PH-4-02	1	Gray brittle window putty	Window panes throughout main floor, not including clerestory roof level windows (inaccessible - see HSA CC1PH-08)	Misc.	3%	Chrysotile
Powerhouse	CC1PH-4-03	1	Gray brittle window putty	Window panes throughout main floor, not including clerestory roof level windows (inaccessible - see HSA CC1PH-08)	Misc.	3%	Chrysotile
Powerhouse	CC1PH-5-01	1	Silver paint	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse		2	Red gasket	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse	CC1PH-5-02	1	Silver paint	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse		2	Red gasket	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse	CC1PH-5-03	1	Silver paint	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse		2	Red gasket	Penstock piping and penstock hydraulic turbine	Misc.	---	None Detected
Powerhouse	CC1PH-7-01	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-02	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-03	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-04	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Powerhouse	CC1PH-7-05	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-06	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-07	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-08	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Powerhouse	CC1PH-7-09	1	Cementitious troweled-on surface coat	Concrete walls throughout main floor	Surf.	---	None Detected
Residence 1	CC1R1-1-01	1	White vinyl floor sheeting with gray square and flower pattern	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1	CC1R1-1-02	1	White vinyl floor sheeting with gray square and flower pattern	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		2	White mastic	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		3	White leveling compound	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		4	Yellow mastic	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1	CC1R1-1-03	1	White vinyl floor sheeting with gray square and flower pattern	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		2	White mastic	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1	CC1R1-1-04	1	White vinyl floor sheeting with gray square and flower pattern	Flooring in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		2	White paper backing with mastic	Flooring in dining room, kitchen, and mud room	Misc.	26%	Chrysotile
Residence 1	CC1R1-2-01	1	Beige vinyl floor sheeting with terrazzo pattern	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 1		2	Gray paper backing with mastic	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	46%	Chrysotile
Residence 1	CC1R1-2-02	1	Beige vinyl floor sheeting with terrazzo pattern	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		2	Gray paper backing with mastic	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	47%	Chrysotile
Residence 1		3	Beige vinyl floor sheeting with terrazzo pattern	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		4	Black paper backing with mastic	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1	CC1R1-2-03	1	Off-white vinyl floor sheeting	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	---	None Detected
Residence 1		2	Gray paper backing with mastic	Flooring underneath HSA CC1R1-2 , in dining room, kitchen, and mud room	Misc.	44%	Chrysotile
Residence 1	CC1R1-3-01	1	3" gray rubber cove base	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1		2	White mastic	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-3-02	1	3" gray rubber cove base	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1		2	White mastic	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-3-03	1	3" gray rubber cove base	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1		2	White mastic	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1		3	Tan mastic	Walls in mud room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-4-01	1	Off-white vinyl floor sheeting	Bathroom flooring	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 1		2	Gray paper backing with mastic and wood	Bathroom flooring	Misc.	---	None Detected
Residence 1	CC1R1-4-02	1	Off-white vinyl floor sheeting	Bathroom flooring	Misc.	---	None Detected
Residence 1		2	Gray paper backing with mastic and wood	Bathroom flooring	Misc.	---	None Detected
Residence 1	CC1R1-4-03	1	Off-white vinyl floor sheeting	Bathroom flooring	Misc.	---	None Detected
Residence 1		2	Gray paper backing with mastic and wood	Bathroom flooring	Misc.	---	None Detected
Residence 1	CC1R1-5-01	1	Tan clay flue for former wood stove	Dining room wall	Misc.	---	None Detected
Residence 1	CC1R1-5-02	1	Tan clay flue for former wood stove	Dining room wall	Misc.	---	None Detected
Residence 1	CC1R1-5-03	1	Tan clay flue for former wood stove	Dining room wall	Misc.	---	None Detected
Residence 1	CC1R1-6-01	1	Black asphaltic roof shingles with granules	Roof of Residence 1 shed, over wood shake shingles	Misc.	---	None Detected
Residence 1	CC1R1-6-02	1	Black asphaltic roof shingles with granules	Roof of Residence 1 shed, over wood shake shingles	Misc.	---	None Detected
Residence 1	CC1R1-6-03	1	Black asphaltic roof shingles with granules	Roof of Residence 1 shed, over wood shake shingles	Misc.	---	None Detected
Residence 1	CC1R1-7-01	1	Thin crumbly brown mastic	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1		2	Black and pink vinyl floor sheeting with square and flower pattern	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1		3	Black asphaltic paper backing with mastic	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1	CC1R1-7-02	1	Black and pink vinyl floor sheeting with square and flower pattern	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1		2	Black asphaltic paper backing with mastic	Flooring in Residence 1 Shed	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 1	CC1R1-7-03	1	Black and pink vinyl floor sheeting with square and flower pattern	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1		2	Black asphaltic paper backing with mastic	Flooring in Residence 1 Shed	Misc.	---	None Detected
Residence 1	CC1R1-8-01	1	Black asphaltic roofing paper	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		2	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		3	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1	CC1R1-8-02	1	Black asphaltic roofing paper	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		2	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		3	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1	CC1R1-8-03	1	Black asphaltic roofing paper	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		2	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1		3	Black asphaltic fibrous material	Throughout Residence 1 roof, underneath wood shake roof	Misc.	---	None Detected
Residence 1	CC1R1-9-01	1	Yellow mastic	Residual mastic on plywood above garage rafters	Misc.	4%	Chrysotile
Residence 1	CC1R1-9-02	1	Yellow mastic	Residual mastic on plywood above garage rafters	Misc.	3%	Chrysotile
Residence 1	CC1R1-9-03	1	Yellow mastic	Residual mastic on plywood above garage rafters	Misc.	5%	Chrysotile
Residence 1	CC1R1-14-01	1	Black mastic	Walls in living room and dining room	Misc.	3%	Chrysotile
Residence 1	CC1R1-14-01	2	White joint compound	Walls in living room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-14-02	1	Black mastic	Walls in living room and dining room	Misc.	3%	Chrysotile

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 1	CC1R1-14-02	2	White gypsum wallboard with paper	Walls in living room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-14-03	1	Black mastic	Walls in living room and dining room	Misc.	3%	Chrysotile
Residence 1	CC1R1-14-03	2	White gypsum wallboard with paper	Walls in living room and dining room	Misc.	---	None Detected
Residence 1	CC1R1-15-01	1	White joint compound	Walls throughout kitchen	Misc.	---	None Detected
Residence 1		2	White gypsum wallboard with paper	Walls throughout kitchen	Misc.	---	None Detected
Residence 1	CC1R1-15-02	1	White joint compound	Walls throughout kitchen	Misc.	---	None Detected
Residence 1		2	White gypsum wallboard with paper	Walls throughout kitchen	Misc.	---	None Detected
Residence 1	CC1R1-15-03	1	White joint compound	Walls throughout kitchen	Misc.	---	None Detected
Residence 1		2	White gypsum wallboard with paper	Walls throughout kitchen	Misc.	---	None Detected
Residence 2	CC1R2-1-01	1	White troweled-on surface coat	Plywood walls throughout living room and dining room	Surf.	0.5%*	Chrysotile
Residence 2	CC1R2-1-02	1	White troweled-on surface coat	Plywood walls throughout living room and dining room	Surf.	---	None Detected
Residence 2	CC1R2-1-03	1	White troweled-on surface coat	Plywood walls throughout living room and dining room	Surf.	---	None Detected
Residence 2	CC1R2-2-01	1	3" off-white rubber cove base	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected
Residence 2		2	White mastic	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected
Residence 2		3	White troweled-on surface coat (HSA 01)	Plywood walls throughout living room and dining room (HSA CC1R2-01)	Surf.	---	None Detected
Residence 2	CC1R2-2-02	1	3" off-white rubber cove base	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected
Residence 2		2	White mastic	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 2	CC1R2-2-03	1	3" off-white rubber cove base	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected
Residence 2		2	White mastic	Walls in kitchen, mud room, and bathroom	Misc.	---	None Detected
Residence 2	CC1R2-3-01	1	Light gray vinyl floor sheeting with swirl and square pattern	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2		2	White paper backing with tan mastic	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2	CC1R2-3-02	1	Light gray vinyl floor sheeting with swirl and square pattern	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2		2	White paper backing with tan mastic	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2	CC1R2-3-03	1	Light gray vinyl floor sheeting with swirl and square pattern	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2		2	White paper backing with tan mastic	Flooring in kitchen, mud room, and bathroom (top layer)	Misc.	---	None Detected
Residence 2	CC1R2-4-01	1	Gray vinyl floor sheeting with gray pattern and yellow mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		2	White firm material	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		3	White paper backing with mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		4	Tan mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2	CC1R2-4-02	1	Tan mastic with gray soft material	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		2	Gray vinyl floor sheeting with gray pattern and yellow mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 2		3	White paper backing with mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2	CC1R2-4-03	1	Yellow mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		2	Gray vinyl floor sheeting with gray pattern and yellow mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence 2		3	White paper backing with mastic	Flooring in kitchen, mud room, and bathroom (underneath HSA CC1R1-03)	Misc.	---	None Detected
Residence Shed	CC1RS-1-01	1	White gypsum wallboard	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed	CC1RS-1-02	1	White gypsum wallboard	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed	CC1RS-1-03	1	White gypsum wallboard	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed	CC1RS-2-01	1	Black asphaltic vapor barrier paper	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed		2	Black asphaltic vapor barrier paper	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed	CC1RS-2-02	2	Black asphaltic vapor barrier paper	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected
Residence Shed	CC1RS-2-03	1	Black asphaltic vapor barrier paper	Walls of Residence Shed, adjacent to lot area of Residence 1	Misc.	---	None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Table 4-3 Visually Negative Materials

Table 3: Visually Negative Materials					
Building	HSA#	HSA Description	Material Location	AHERA Classification	Summarized Results
Residence 1	CC1R1-10	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative
Residence 2	CC1R2-07	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative
Residence 2	CC1R2-08	Yellow fiberglass batt insulation	Throughout attic	TSI	Visually Negative

TSI: Thermal System Insulation per AHERA

Table 4-4 Lead Paint Sample Results

Table 4: Lead Paint Sample Results					
Building	Sample ID	Description	Substrate	Location	Results in (mg/kg)
Emergency Spill Equipment Shed	CC1ES-Pb1-01	Gray paint	Wood	Throughout exterior siding	<52
Gatehouses	CC1GH-Pb1-01	White paint	Wood	Throughout exterior trim on C11 gatehouses	150,000
Gatehouses	CC1GH-Pb2-01	White paint	Wood	Throughout exterior trim on C12 gatehouses	130,000
Groundwater Pump house	CC1GWPH-Pb1-01	White paint	Wood	Exterior door and trim	3,300
Maintenance Building	CC1MB-Pb1-01	White paint	Wood	Throughout exterior siding	93,000
Penstocks	CC1PS-Pb1-01	Grayish/silver paint	Steel	Penstock - exterior	31,000
Powerhouse	CC1PH-Pb1-01	Blue paint	Steel	Penstock and hydraulic turbine inside Powerplant	69,000
Powerhouse	CC1PH-Pb2-01	Gray paint	Concrete	Walls and floor throughout main floor	140
Powerhouse	CC1PH-Pb3-01	White paint	Concrete	Wall throughout main floor	95,000
Powerhouse	CC1PH-Pb4-01	Red paint	Concrete	Equipment pads on main floor	83,000
Residence 1	CC1R1-Pb1-01	White paint on gray paint	Wood	Exterior door and trim	73,000
Residence 1	CC1R1-Pb2-01	White paint	Wood	Interior walls throughout	630
Residence 1	CC1R1-Pb2-02	White paint	Wood	Interior walls throughout	1,000
Residence 1	CC1R1-Pb3-01	Pink paint	Wood	Bathroom walls	420
Residence 1	CC1R1-Pb4-01	White paint	Wood	Exterior door and trim on shed	96,000
Resident Shed	CC1RS-Pb1-01	White paint	Wood	Exterior wood siding	3,000

<: Below the reporting limit

Table 4-5 Universal Waste Inventory

Table 5: Universal Waste Inventory	
Other Regulated Building Materials Description	Approximate Quantity
Mercury-containing fluorescent light tubes (4' length)	34
Mercury-containing fluorescent light tubes (8' length)	17
Suspect PCB-containing light ballasts	23
Magnetic light ballasts	2
HID lamps	16
PCB-Containing Transformers	3 (Powerhouse)
Mercury-containing switches, controls, and recorders	None observed

Table 4-6 PCB-Caulking Sample Results

Table 6: PCB Caulking Results		
Sample Number and Description	Material Location	Samples Results in Parts Per Million (ppm)
CC1GH-PCB1-01: Flexible gray expansion joint sealant	Top of Copco 1 dam – at expansion joints	ND

ND: None Detected

APPENDIX A FIGURES



Job No. 60537920

AECOM

Figure 1
Copco No. 1
Aerial Site Photo

Copco No. 1 Dam
Hornsbrook, CA

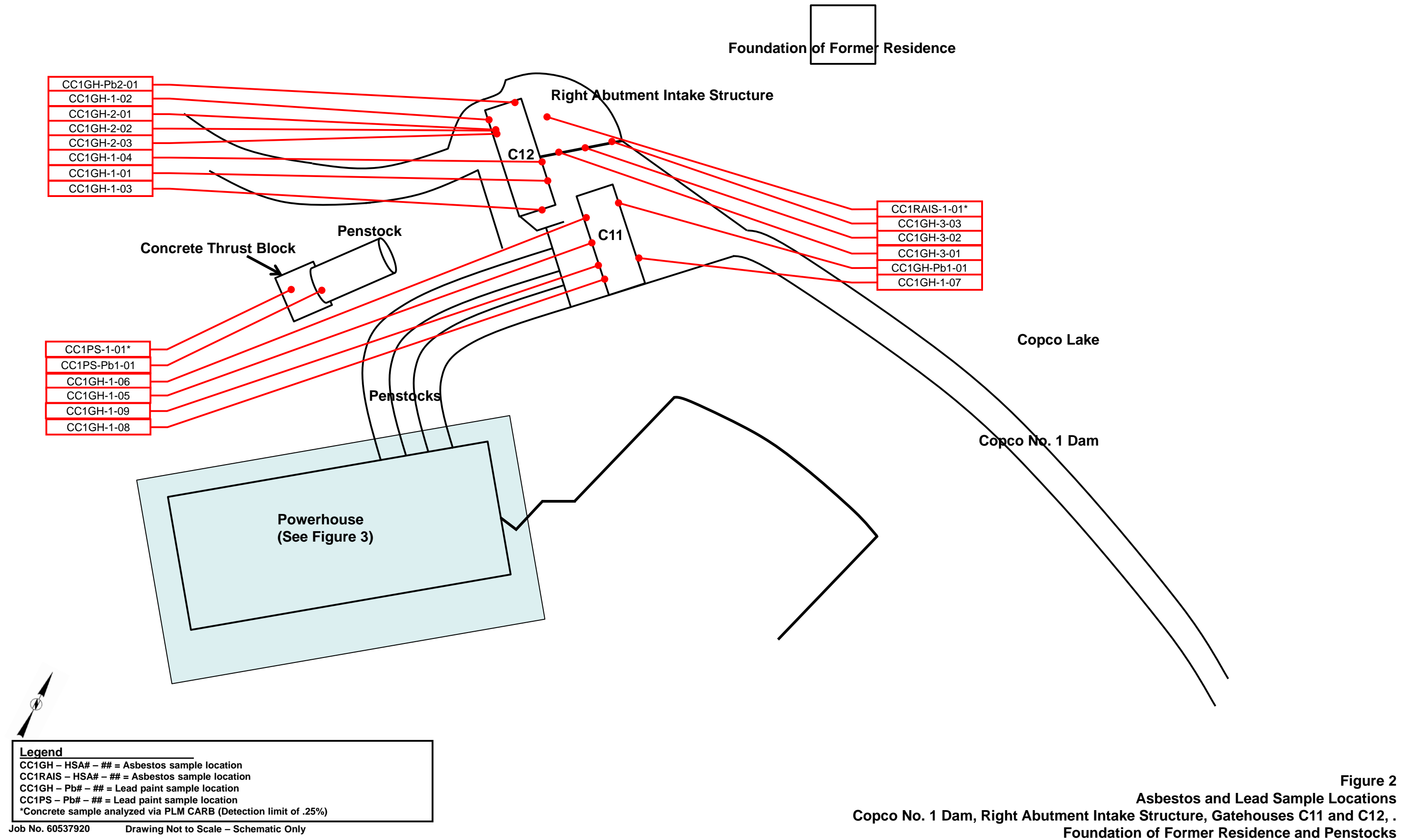
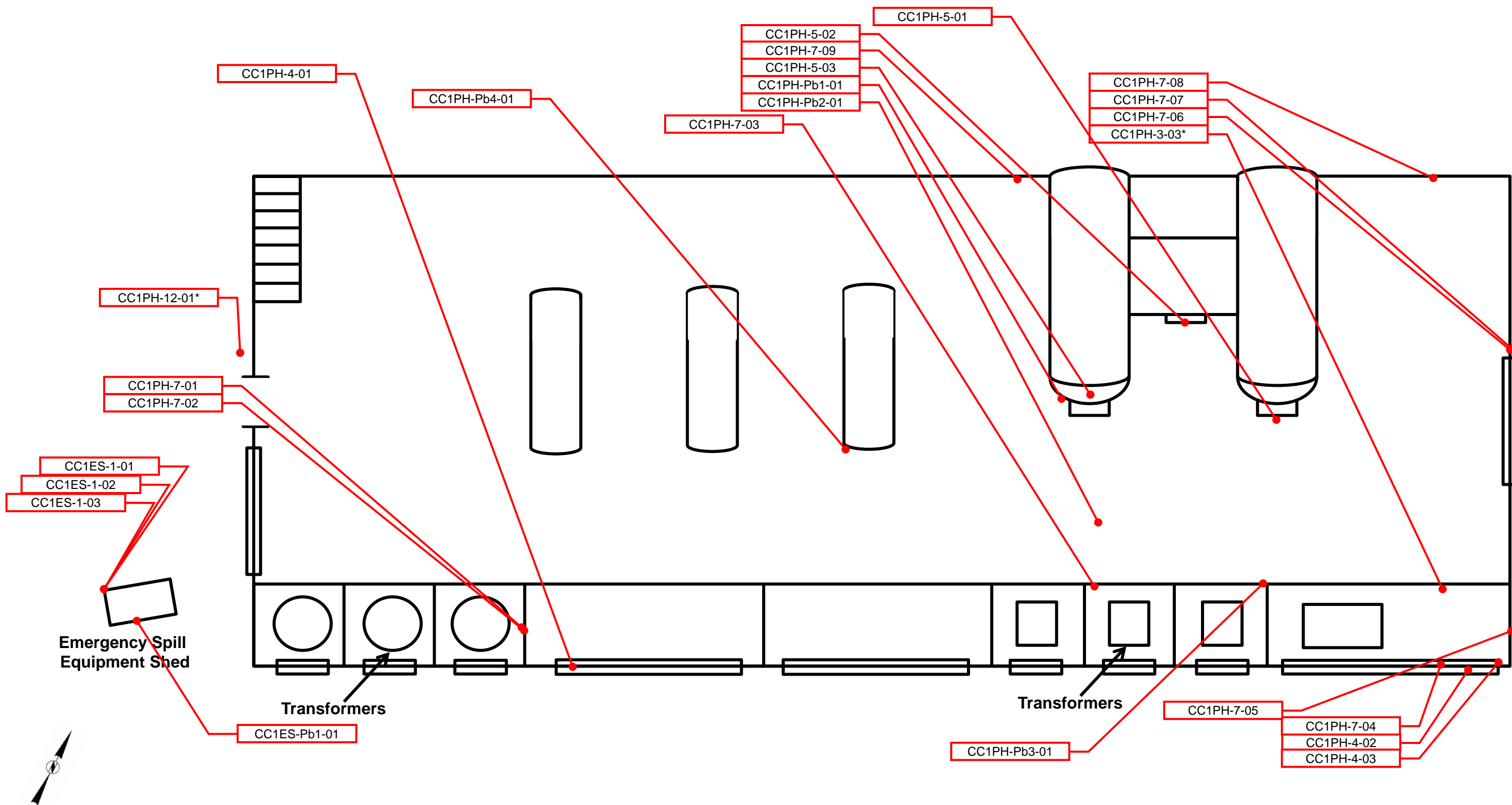


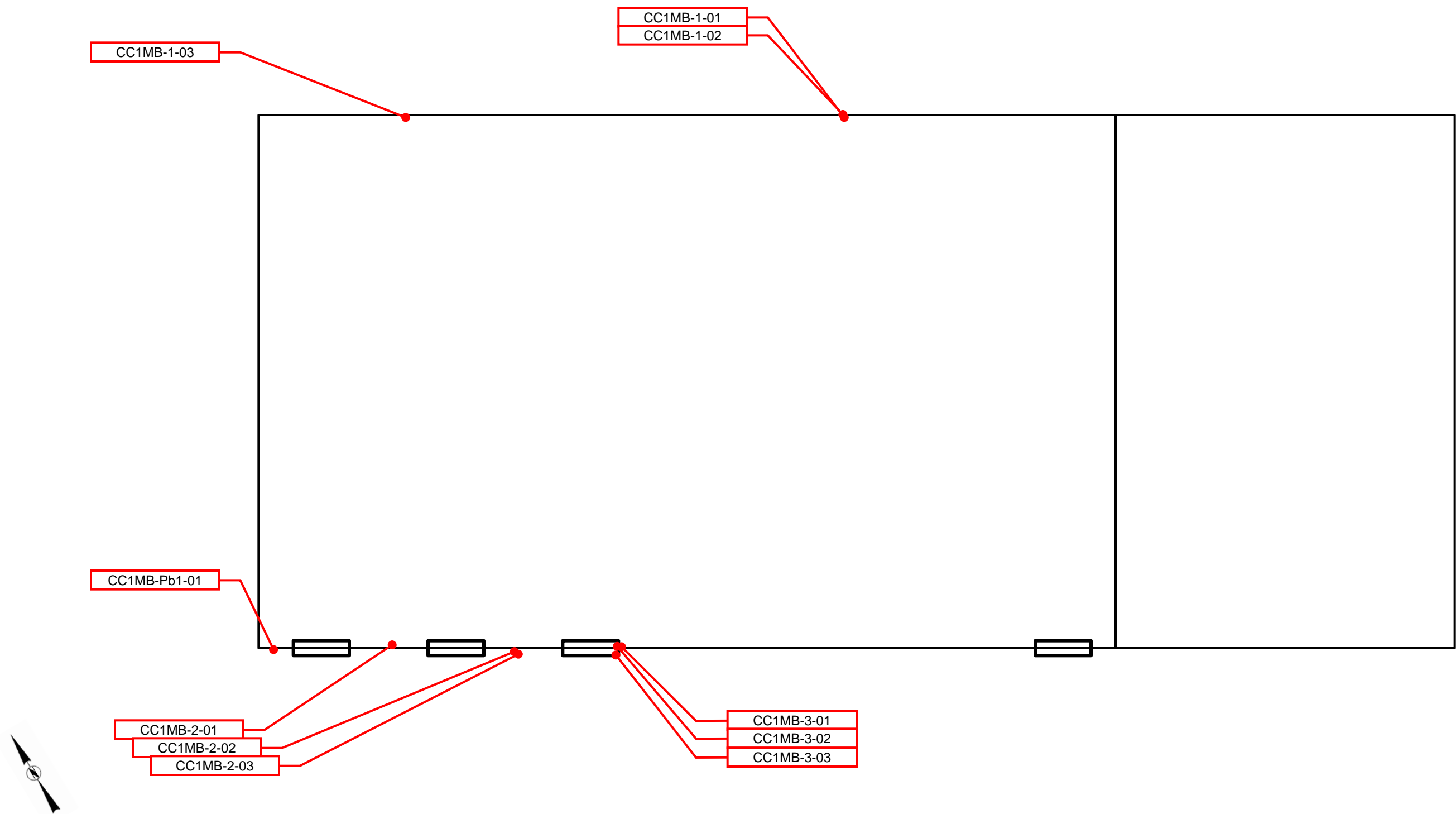
Figure 2
Asbestos and Lead Sample Locations
Copco No. 1 Dam, Right Abutment Intake Structure, Gatehouses C11 and C12, .
Foundation of Former Residence and Penstocks



Legend
 CC1PH – HSA# – ## = Asbestos sample location
 CC1PH – Pb# – ## = Lead paint sample location
 *Concrete sample analyzed via PLM CARB (Detection limit of .25%)

Job No. 60537920 Drawing Not to Scale – Schematic Only

Figure 3
Asbestos and Lead Sample Locations
Powerhouse Ground Level and Emergency Spill Equipment Shed



Legend
 CC1MB – HSA# – ## = Asbestos sample location
 CC1MB – Pb# – ## = Lead paint sample location

Figure 4
Asbestos and Lead Sample Locations
Maintenance Building

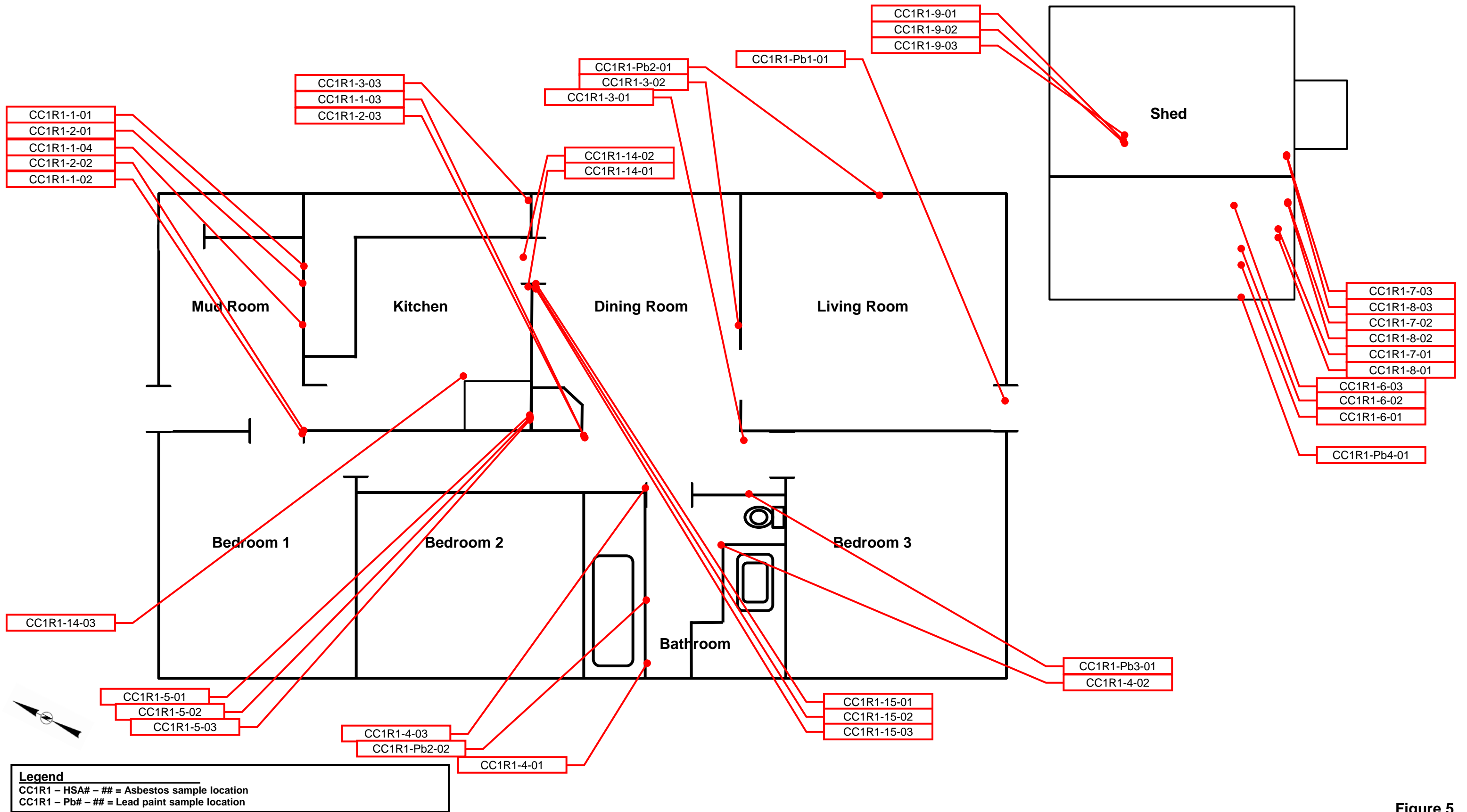
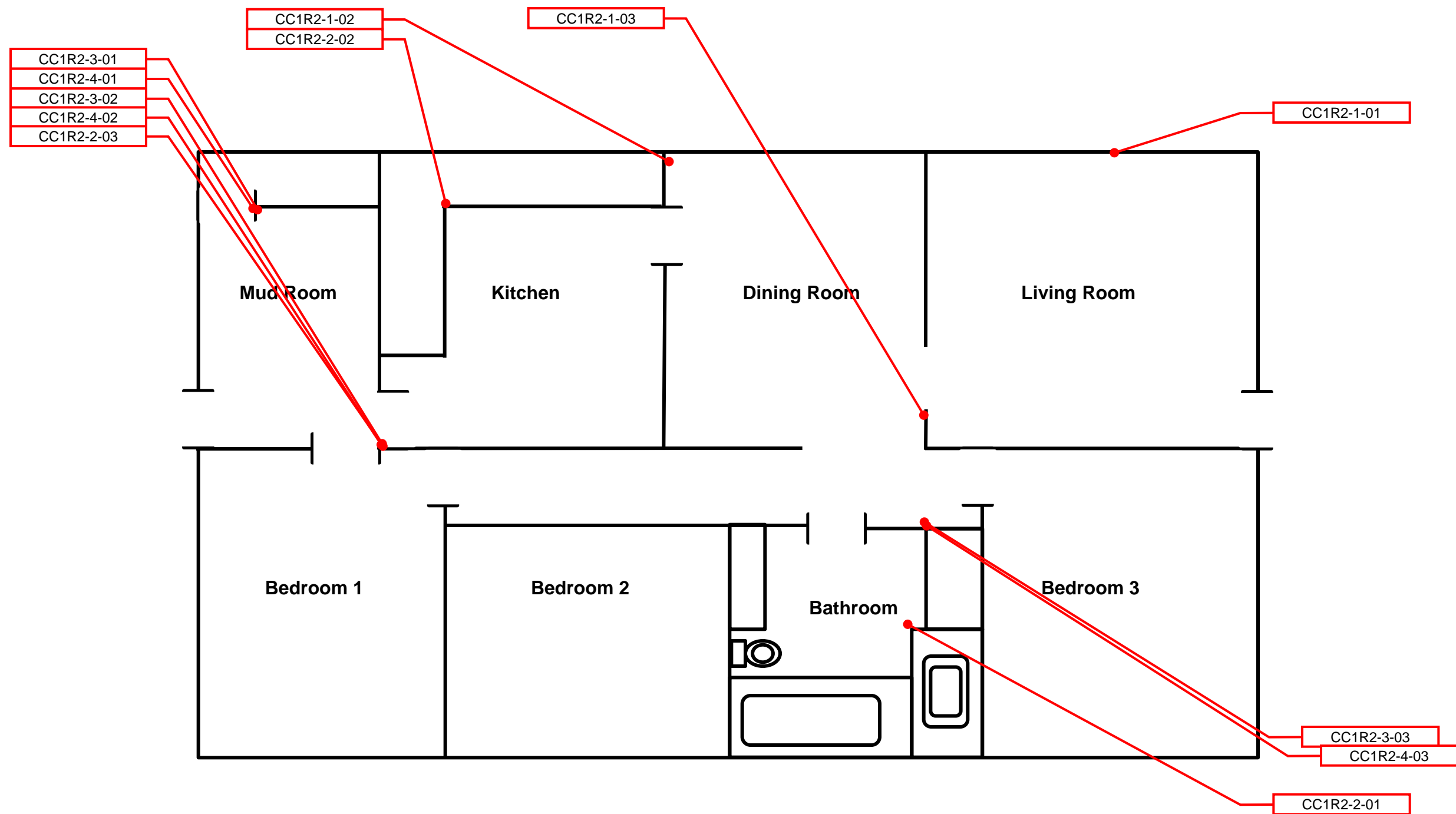
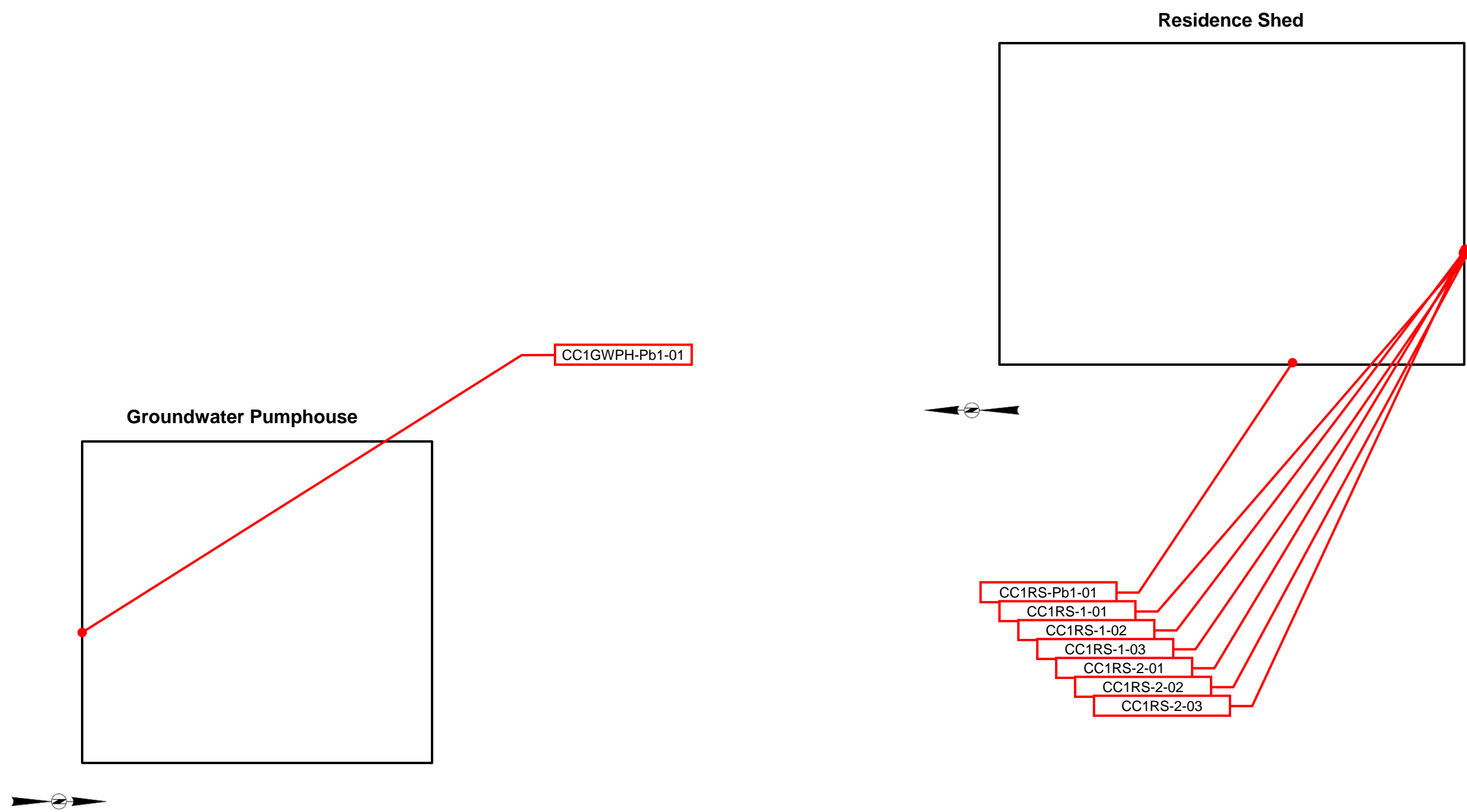


Figure 5
Asbestos and Lead Sample Locations
Former Residence 1 and Detached Shed



Legend
 CC1R2 – HSA# – ## = Asbestos sample location
 CC1R2 – Pb# – ## = Lead paint sample location

Figure 6
Asbestos and Lead Sample Locations
Former Residence 2









Legend
 CC1RS – HSA# – ## = Asbestos sample location
 CC1RS – Pb# – ## = Lead paint sample location
 CC1GWPH – Pb# – ## = Lead paint sample location

Job No. 60537920 Drawing Not to Scale – Schematic Only

Figure 7
Asbestos and Lead Sample Locations
Residence Shed and Groundwater Pumphouse

Legend

-  HSA CC1PH-02: Assumed asbestos-containing electrical panel backing in older electrical panel associated with transformers (M)
-  HSA CC1PH-04: : Asbestos-containing gray brittle window putty and assumed asbestos-containing window putty on clerestory windows (M)
-  HSA CC1PH-06: Assumed asbestos-containing Cement Asbestos Board (CAB) (M)
-  HSA CC1PH-10: : Assumed asbestos-containing rope gasket
-  HSA CC1PH-06: Assumed asbestos-containing wicket gate associated with turbine (M)
-  HSA CC1PH-13: Assumed asbestos-containing metal-clad fire door insulation (M)
- Not shown: CC1PH-02: Assumed asbestos-containing gaskets throughout (M)

Drawing should be printed in color

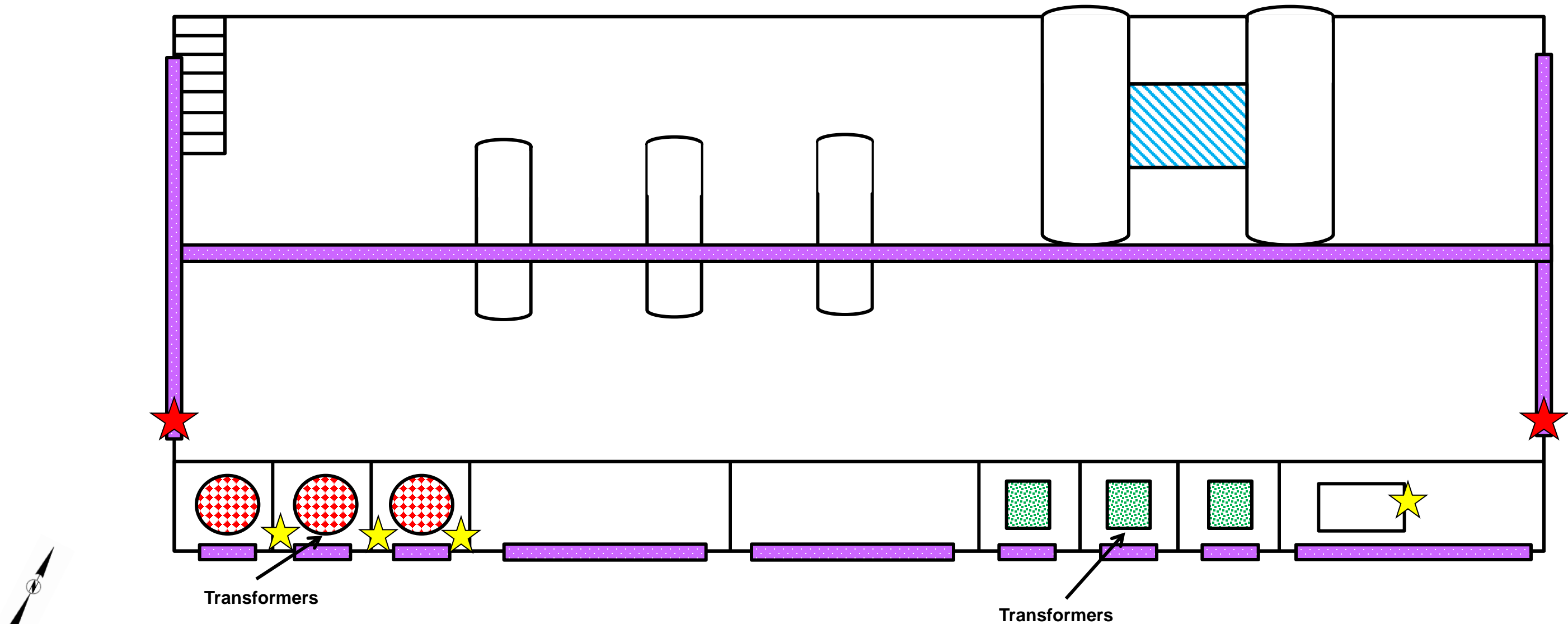


Figure 8
Approximate ACM Locations
Powerhouse Ground Level

Legend



HSA CC1PH-01: Assumed asbestos-containing white woven electrical wire insulation (M)



HSA CC1PH-06: Assumed asbestos-containing Cement Asbestos Board (CAB) (M)

Drawing should be printed in color



Figure 9
Approximate ACM Locations
Powerhouse Basement Level

Legend



HSA CC1R1-01 and CC1R1-02: Asbestos-containing white vinyl floor sheeting with gray square and flower pattern and white paper backing with mastic over asbestos-containing beige vinyl floor sheeting with terrazzo pattern and paper backing mastic (M)



HSA CC1R1-09: Asbestos containing yellow mastic (M)



HSA CC1R1-12: Assumed asbestos-containing gray chimney grout (M)



HSA CC1R1-13: Assumed asbestos-containing vapor barrier paper (M)



HSA CC1R1-14: Assumed asbestos-containing mastic behind wood wall paneling (M)

Drawing should be printed in color

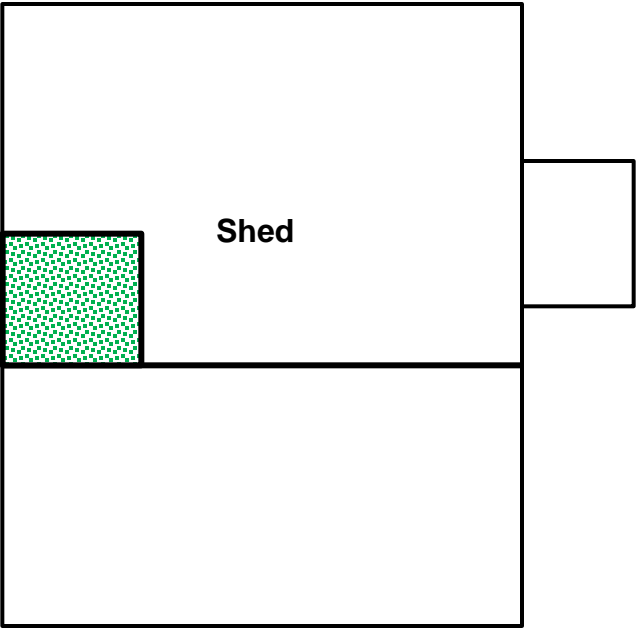
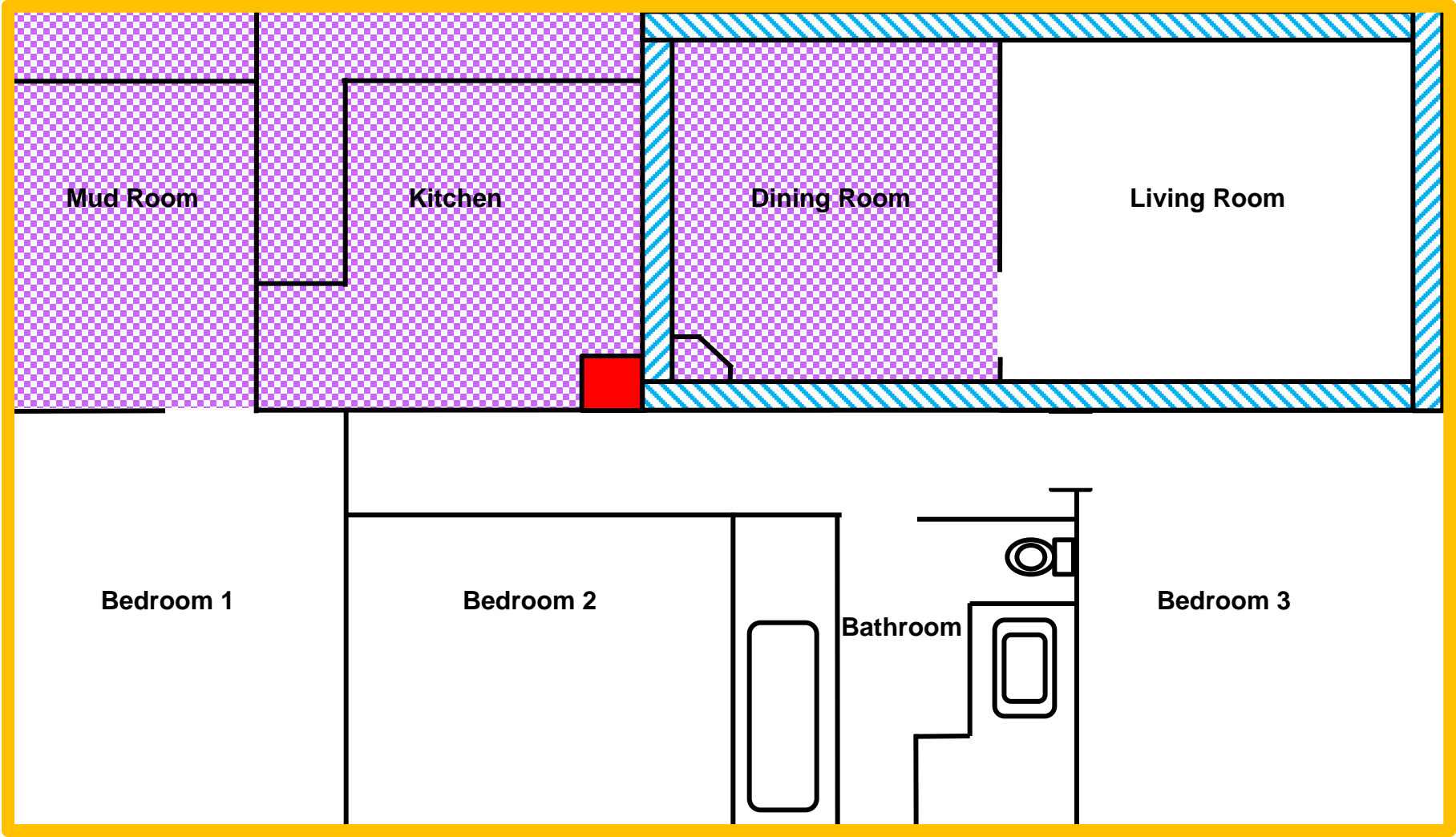




Figure 10
Approximate ACM Locations
Former Residence 1 and Detached Shed

Legend

-  HSA CC1R2-01: Asbestos-containing white troweled-on surface coat (S)
-  HSA CC1R2-06: Assumed asbestos-containing vapor barrier paper (M)

Not shown: HSA CC1R2-05: : Assumed asbestos-containing asphaltic woven electrical wire insulation (throughout) (M)

Drawing should be printed in color

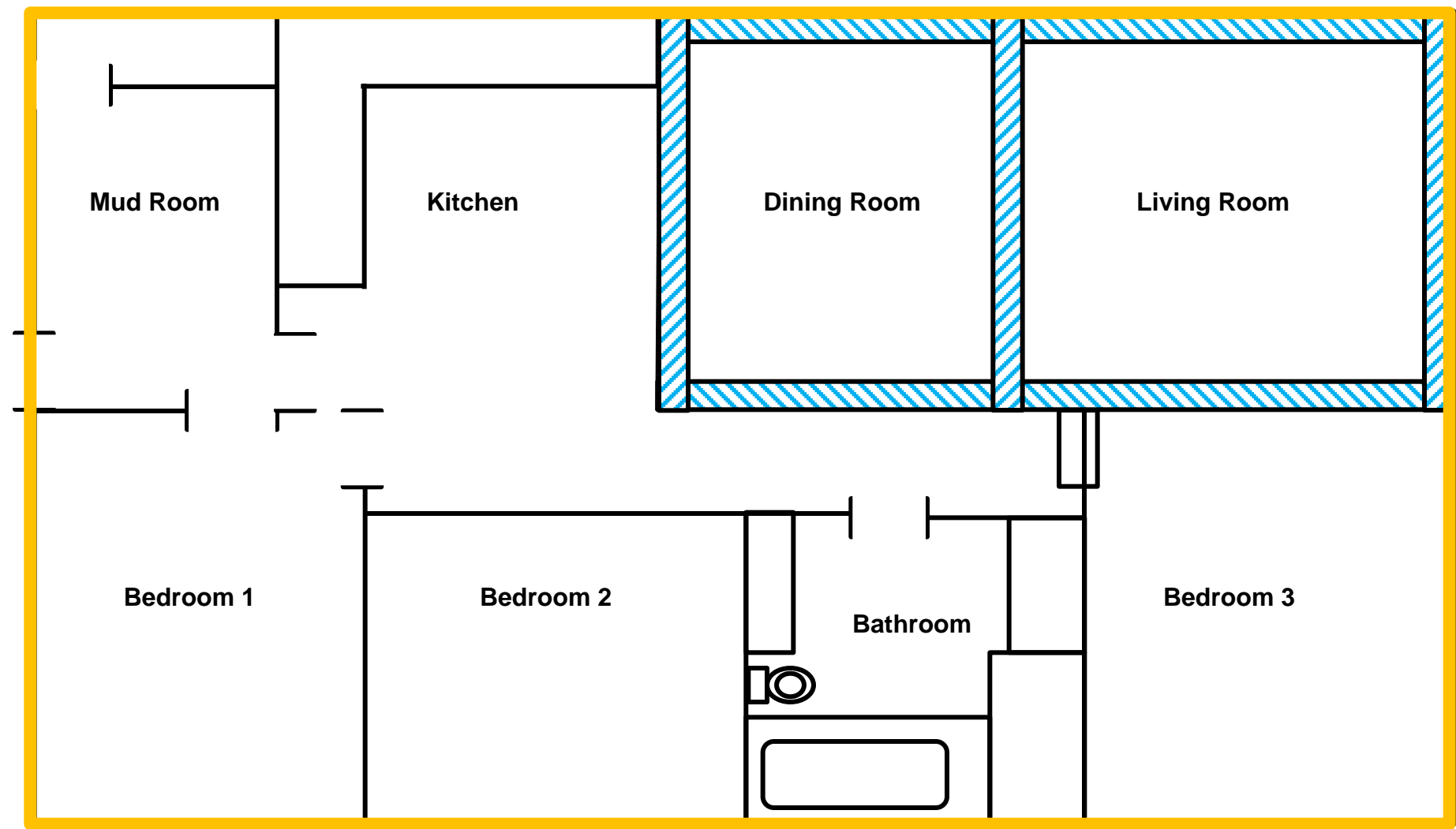


Figure 12
Asbestos and Lead Sample Locations
Former Residence 2

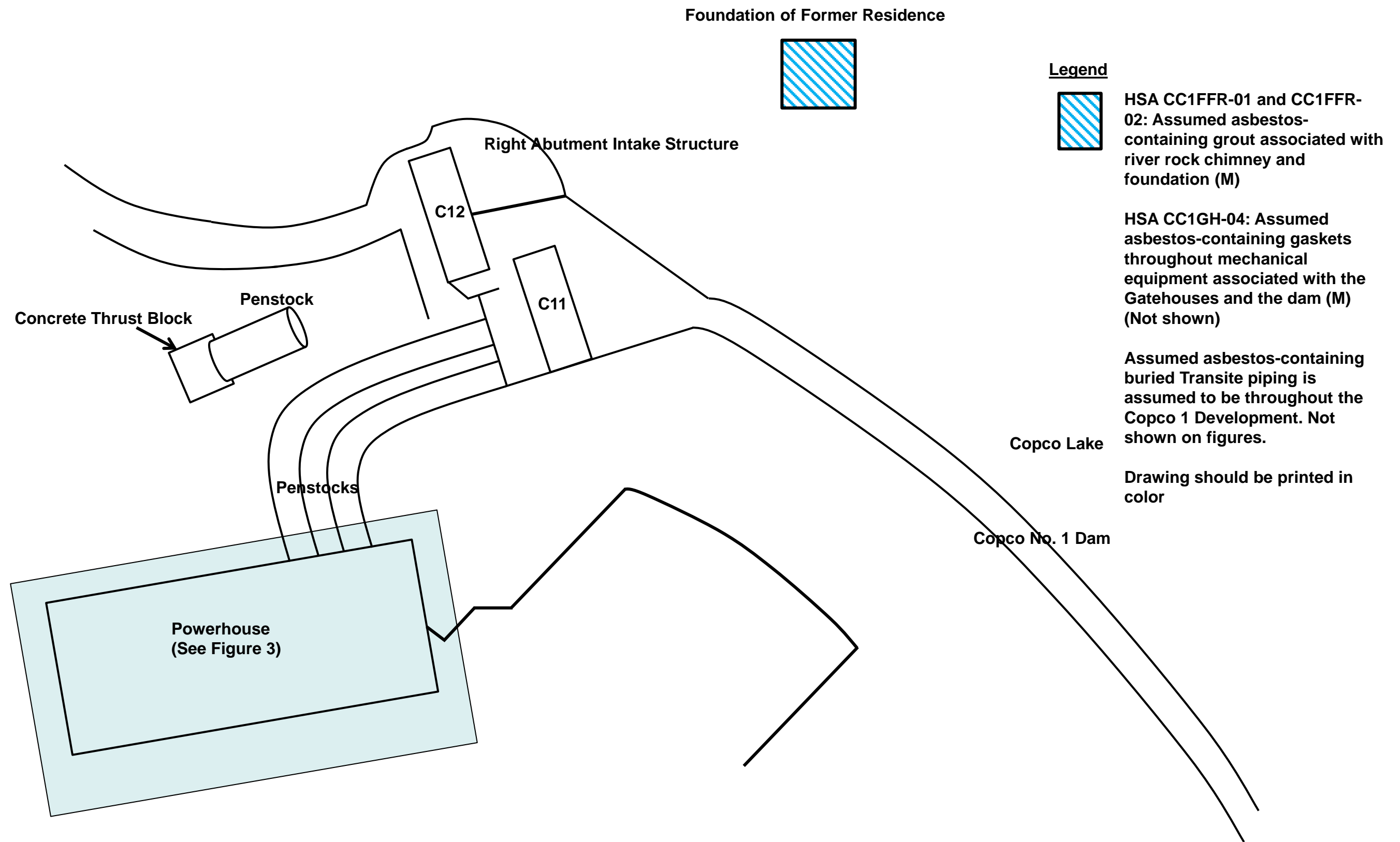


Figure 12
Asbestos and Lead Sample Locations
Copco No. 1 Dam, Right Abutment Intake Structure, Gatehouses C11 and C12, .
Foundation of Former Residence and Penstocks



APPENDIX B HSA PHOTOLOGS

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development; Dam and
Gatehouses C11 and C12

Project No.
60567920

Photo No. ---	Date: 9/10/2018 to 9/11/2018
Structure: Copco No. 1 Dam, Dam and Gatehouses C11 and C12	



Photo No./ Material ID: CC1GH - 01	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Dam, Dam and Gatehouses C11 and C12/ Throughout exterior of Gatehouses	
*Description (by layer): 1: Gray brittle stucco (S)	



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development; Dam and
Gatehouses C11 and C12

Project No.
60567920

Photo No./ Material ID: CC1GH - 02	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Dam, Dam and Gatehouses C11 and C12/ Underneath copper shingle roof	
*Description (by layer): 1: Black asphaltic roofing paper (M) 2: Black asphaltic roofing material (M)	



Photo No./ Material ID: CC1GH - 03	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Dam, Dam and Gatehouses C11 and C12/ Walkway expansion joints associated with the Gatehouses, the Right Abutment Intake Structure, and the Copco 1 Dam	
*Description (by layer): 1: Gray sealant (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1GH

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development; Dam and
Gatehouses C11 and C12

Project No.
60567920

**Photo No./
Material ID:**

CC1GH - 04

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Dam, Dam and
Gatehouses C11 and C12/
Throughout mechanical
equipment and piping on dam
and in Gatehouses

***Description (by layer):**

**Assumed asbestos-containing
gaskets**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Emergency Spill
Equipment Shed

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Emergency Spill
Equipment Shed



**Photo No./
Material ID:**

CC1ES - 01

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Emergency Spill
Equipment Shed/
Throughout roof

***Description (by layer):**

- 1: Black asphaltic roofing
shingles with granules (M)
- 2: Black asphaltic mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1ES Page 1 of 1 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Foundation of
Former Residence

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

**Copco No. 1 Foundation of
Former Residence**



**Photo No./
Material ID:**

CC1FFR - 01

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

**Copco No. 1 Emergency Spill
Equipment Shed/
Throughout roof**

***Description (by layer):**

**Assumed gray grout
associated with river rock
chimney (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Foundation of
Former Residence

Project No.
60567920

**Photo No./
Material ID:**

CC1GH - 02

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Emergency Spill
Equipment Shed/
Throughout roof

***Description (by layer):**

**Assumed gray grout
associated with foundation
(M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Groundwater
Pumphouse

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Groundwater
Pumphouse



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development
Maintenance Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Maintenance
Building



**Photo No./
Material ID:**

CC1MB - 01

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Maintenance
Building/
Underneath wood siding
throughout exterior

***Description (by layer):**

- 1: Black asphaltic vapor barrier
paper (M))
- 2: Black asphaltic vapor barrier
paper (M)
- 3: Black asphaltic material (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1MB

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development
Maintenance Building

Project No.
60567920

**Photo No./
Material ID:**

CC1MB - 02

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Maintenance
Building/
Underneath corrugated metal
roof

***Description (by layer):**

- 1: Black asphaltic roofing paper (M)
- 2: Black asphaltic material (M)



**Photo No./
Material ID:**

CC1MB - 03

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Maintenance
Building/
Exterior window panes

***Description (by layer):**

- 1: White brittle window putty (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1MB Page 2 of 2 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Penstocks

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Penstocks



**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Penstocks



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development,
Powerhouse

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018

Structure:

Copco No. 1 Powerhouse



**Photo No./
Material ID:**

CC1PH - 01

Date:

9/10/2018

Structure/Material Location:

Copco No. 1 Powerhouse/
Throughout both floors of
Powerhouse, runs into wall and
chases. Only visible at the
basement level. Labeled with
ACM stickers.

***Description (by layer):**

**Assumed asbestos-containing
white woven electrical wire
insulation (M)**



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 1 Development, Powerhouse	Project No. 60567920
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Photo No./ Material ID:	Date:	
CC1PH - 02	9/10/2018	
Structure/Material Location: Copco No. 1 Powerhouse/ Throughout main floor and basement		
*Description (by layer): Assumed asbestos-containing electrical panel backing in older electrical panels (M)		

Photo No./ Material ID:	Date:	
CC1PH - 03	---	
Structure/Material Location: Not used		
*Description (by layer):		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: CC1PH - 04	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ Window panes throughout main floor, not including clerestory roof level windows (inaccessible - see HSA 08)	
*Description (by layer): 1: Gray brittle window putty (M)	



Photo No./ Material ID: CC1PH - 05	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ Penstock piping and penstock hydraulic turbine	
*Description (by layer): 1: Silver paint (M) 2: Red gasket (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1PH Page 3 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID:	Date:
CC1PH - 06	9/10/2018
Structure/Material Location:	
Copco No. 1 Powerhouse/ Panels in various places throughout the main floor and basement. Labeled with ACM stickers.	
*Description (by layer):	
Assumed asbestos-containing cement asbestos board (CAB) (M)	



Photo No./ Material ID:	Date:
CC1PH - 07	9/10/2018
Structure/Material Location:	
Copco No. 1 Powerhouse/ Concrete walls throughout main floor	
*Description (by layer):	
1: Cementitious troweled-on surface coat (S)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1PH Page 4 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: CC1PH - 08	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ Clerestory windows at roof level of Powerhouse	
*Description (by layer): Assumed asbestos-containing window putty (M)	



Photo No./ Material ID: CC1PH - 09	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ Throughout Powerhouse piping and mechanical equipment	
*Description (by layer): Assumed asbestos-containing gaskets (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1PH Page 5 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: CC1PH - 10	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ On transformers on main level of Powerhouse	
*Description (by layer): Assumed asbestos-containing rope gasket (M)	



Photo No./ Material ID: CC1PH - 11	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Powerhouse/ Associated with turbines on main level of Powerhouse, inaccessible unless turbines are removed	
*Description (by layer): Assumed asbestos-containing wicket gates (M)	




*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1PH Page 6 of 7 AECOM Project Number: 60567920

Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 1 Development, Powerhouse	Project No. 60567920
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Photo No./ Material ID:	Date:	Not used
CC1PH - 12	-	
Structure/Material Location:		
*Description (by layer):		

Photo No./ Material ID:	Date:	
CC1PH - 13	9/10/2018	
Structure/Material Location: Copco No. 1 Powerhouse/ Main floor of Powerhouse		
*Description (by layer): Assumed asbestos-containing metal-clad fire door insulation (M)		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Residence 1



**Photo No./
Material ID:**

CC1R1 - 01

Date:

9/10/2018

Structure/Material Location:

Copco No. 1 Residence 1/
Flooring in dining room, kitchen,
and mud room

***Description (by layer):**

- 1: White vinyl floor sheeting with
gray square and flower pattern
(M)
- 2: White mastic (M)
- 3: White leveling compound (M)
- 4: Yellow mastic (M)



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

Photo No./ Material ID:	Date:
CC1R1 - 02	9/10/2018
Structure/Material Location:	
Copco No. 1 Residence 1/ Flooring underneath HSA CC1R1-02 , in dining room, kitchen, and mud room	
*Description (by layer):	
1: Beige vinyl floor sheeting with terrazzo pattern (M)	
2: Gray paper backing with mastic (M)	
3: Beige vinyl floor sheeting with terrazzo pattern (M)	
4: Black paper backing with mastic (M)	



Photo No./ Material ID:	Date:
CC1R1 - 03	9/10/2018
Structure/Material Location:	
Copco No. 1 Residence 1/ Walls in mud room and dining room	
*Description (by layer):	
1: 3" gray rubber cove base (M)	
2: White mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

**Photo No./
Material ID:**

CC1R1 - 04

Date:

9/10/2018

Structure/Material Location:

Copco No. 1 Residence 1/
Throughout roof

***Description (by layer):**

- 1: Off-white vinyl floor sheeting (M)
- 2: Gray paper backing with mastic and wood (M)



**Photo No./
Material ID:**

CC1R1 - 05

Date:

9/10/2018

Structure/Material Location:

Copco No. 1 Residence 1/
Dining room wall

***Description (by layer):**

- 1: Tan clay flue for former wood stove (M)



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

Photo No./ Material ID: CC1R1 - 06	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Residence 1/ Roof of Residence 1 shed, over wood shake shingles	
*Description (by layer): 1: Black asphaltic roof shingles with granules (M)	



Photo No./ Material ID: CC1R1 - 07	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Residence 1/ Flooring in Residence 1 Shed	
*Description (by layer): 1: Thin crumbly brown mastic (M) 2: Black and pink vinyl floor sheeting with square and flower pattern (M) 3: Black asphaltic paper backing with mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1R1 Page 4 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

Photo No./ Material ID: CC1R1 - 08	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Residence 1/ Throughout roof	
*Description (by layer): 1: Black asphaltic roofing paper (M) 2: Black asphaltic fibrous material (M) 3: Black asphaltic fibrous material (M)	



Photo No./ Material ID: CC1R1 - 09	Date: 9/10/2018
Structure/Material Location: Copco No. 1 Residence 1/ Residual mastic on plywood above garage rafters	
*Description (by layer): 1: Yellow mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 1 Dam, Residence 1	Project No. 60567920
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Photo No./ Material ID:	Date:	
CC1R1 - 10	9/10/2018	
Structure/Material Location: Copco No. 1 Residence 1/ Throughout attic		
*Description (by layer): Visually assessed and determined to be non-suspect blown in cellulose insulation (TSI)		

Photo No./ Material ID:	Date:	
CC1R1 - 11	---	
Structure/Material Location: Not used		
*Description (by layer):		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence 1

Project No.
60567920

Photo No./ Material ID:	Date:
CC1R1 - 12	9/10/2018
Structure/Material Location:	
Copco No. 1 Residence 1/ Center of house, walled in with gypsum. Inaccessible at time of inspection.	
*Description (by layer):	
Assumed asbestos-containing gray chimney grout (M)	



Photo No./ Material ID:	Date:
CC1R1 - 13	9/10/2018
Structure/Material Location:	
Copco No. 1 Residence 1/ Throughout exterior underneath metal siding	
*Description (by layer):	
Assumed asbestos-containing vapor barrier paper (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1R1

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam Residence 2

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Residence 2



**Photo No./
Material ID:**

CC1R2 - 01

Date:

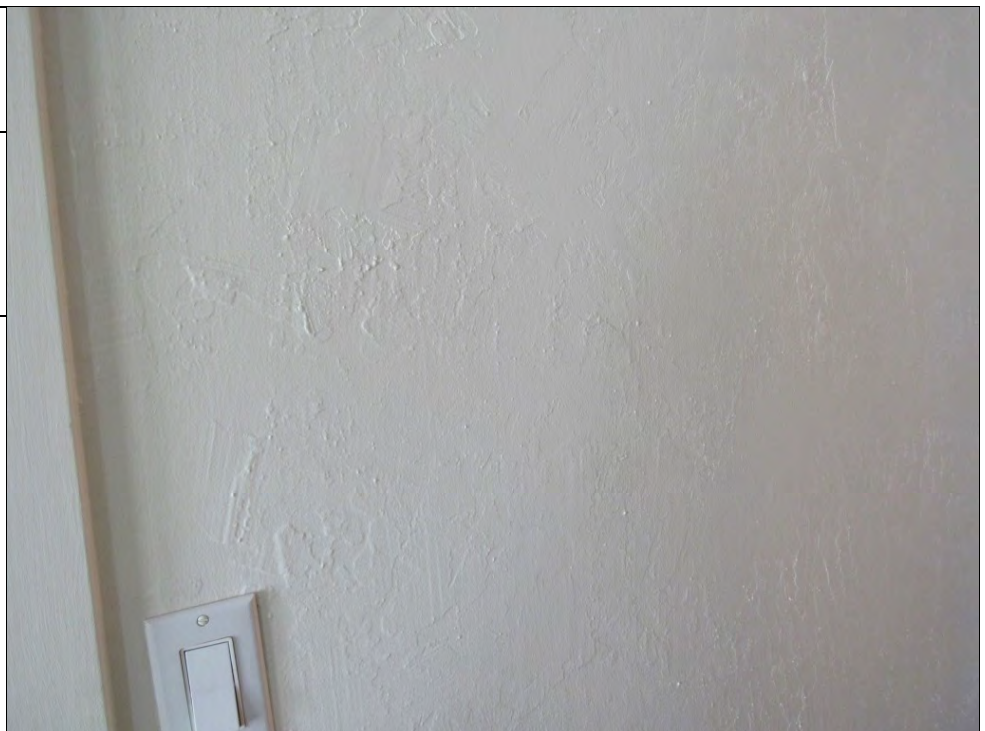
9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Residence 2/
Plywood walls throughout living
room and dining room

***Description (by layer):**

**1: White troweled-on surface
coat (S)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam Residence 2

Project No.
60567920

Photo No./ Material ID: CC1R2 - 02	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Residence 2/ Throughout roof	
*Description (by layer): 1: 3" off-white rubber cove base (M) 2: White mastic (M) 3: White troweled-on surface coat (S) (HSA 01)	



Photo No./ Material ID: CC1R2 - 03	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Residence 2/ Walls in kitchen, mud room, and bathroom	
*Description (by layer): 1: Light gray vinyl floor sheeting with swirl and square pattern (M) 2: White paper backing with tan mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1R2 Page 2 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam Residence 2

Project No.
60567920

Photo No./ Material ID: CC1R2 - 04	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Residence 2/ Flooring in kitchen, mud room, and bathroom (underneath HSA 3)	
*Description (by layer): 1: Gray vinyl floor sheeting with gray pattern and yellow mastic (M) 2: White firm material (M) 3: White paper backing with mastic (M) 4: Tan mastic (M)	



Photo No./ Material ID: CC1R2 - 05	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Residence 2/ Throughout interior wall spaces and attic	
*Description (by layer): Assumed asbestos-containing asphaltic woven electrical wire insulation (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam Residence 2

Project No.
60567920

**Photo No./
Material ID:**

CC1R2 - 06

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Residence 2/
Throughout exterior underneath
metal siding

***Description (by layer):**

**Assumed asbestos-containing
vapor barrier paper**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence Shed

Project No.
60567920

Photo No./ Material ID: ---	Date: 9/10/2018 to 9/11/2018
Structure: Copco No. 1 Residence Shed	



Photo No./ Material ID: CC1RS - 01	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Residence Shed/ Walls of residence shed, adjacent to lot area of Residence 1	
*Description (by layer): 1: White gypsum wallboard (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1RS Page 1 of 2 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam, Residence Shed

Project No.
60567920

**Photo No./
Material ID:**

CC1RS - 02

Date:

9/10/2018 to
9/11/2018

Structure/Material Location:

Copco No. 1 Residence Shed/
Throughout roof

***Description (by layer):**

1: Black asphaltic vapor barrier
paper (M)



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Right Abutment
Intake Structure

Project No.
60567920

Photo No. ---	Date: 9/10/2018 to 9/11/2018
Structure: Copco No. 1 Dam, Right Abutment Intake Structure	



Photo No./ Material ID: CC1RAIS - 01	Date: 9/10/2018 to 9/11/2018
Structure/Material Location: Copco No. 1 Dam, Right Abutment Intake Structure/ Walkway above right abutment intake structure	
*Description (by layer): 1: Poured concrete (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1RAIS Page 1 of 1 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 1 Dam; Stop Log Shed

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/10/2018 to
9/11/2018

Structure:

Copco No. 1 Stop Log Shed



Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 1 Dam; Switchyard**Project No.**
60567920**Photo No./**
Material ID:

Date:9/10/2018 to
9/11/2018**Structure:**

Copco No. 1 Switchyard



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC1SY

APPENDIX C LABORATORY ANALYTICAL RESULTS

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819225.00

Client Project: 60537920 Task 2.4
Location: CC1 EMERGENCY SPILL EQUIPMENT SHED

Dear Ms. Gladu,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 EMERGENCY SPILL EQUIPMENT SHED

Batch #: 1819225.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098284 Client Sample #: CC1 ES-1-01

Location: CC1 EMERGENCY SPILL EQUIPMENT SHED

Layer 1 of 1 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials: %
Asphalt/Binder, Fine grains	Glass fibers 15%

Asbestos Type: %
None Detected ND

Lab ID: 18098285 Client Sample #: CC1 ES-1-02

Location: CC1 EMERGENCY SPILL EQUIPMENT SHED

Layer 1 of 2 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials: %
Asphalt/Binder, Fine grains	Glass fibers 16%

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Black asphaltic mastic

Non-Fibrous Materials:	Other Fibrous Materials: %
Asphalt/Binder, Miscellaneous particles	Cellulose 2%

Asbestos Type: %
None Detected ND

Lab ID: 18098286 Client Sample #: CC1 ES-1-03

Location: CC1 EMERGENCY SPILL EQUIPMENT SHED

Layer 1 of 1 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials: %
Asphalt/Binder, Fine grains	Glass fibers 13%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** 1819225.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 EMERGENCY SPILL EQUIPMENT SHED

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098284	CC1 ES-1-01		A
2	18098285	CC1 ES-1-02		A
3	18098286	CC1 ES-1-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Daniel		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:19 PM

Entered By: Shaina Mitchell

1819225



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CCI EMERGENCY SPILL EQUIPMENT SHED</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples _____

Sample ID	Description	A/R
1	<u>CCIES-1-01</u>	
2	<u>" - 1-02</u>	
3	<u>" - 1-03</u>	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>David Simon, CAC</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18-9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/20/18</u>	<u>5pm</u>
<u>10/01/18 9:15 am</u>					
Office Use Only					
Received by	<u>[Signature]</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/1/18</u>	<u>9:15</u>
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819477.00

Client Project: 60537920 Task 2.4
Location: CCI Gatehouses, Right Abutment Intake Structure

Dear Ms. Gladu,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CCI Gatehouses, Right Abutment Intake Structure

Batch #: 1819477.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099782 Client Sample #: CCIGH-1-01

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:
Binder/Filler, Gravel, Mineral grains
Sand, Quartz, Calcareous particles

Other Fibrous Materials:%
Cellulose <1%
Spider silk <1%

**Asbestos Type: %
None Detected ND**

Lab ID: 18099783 Client Sample #: CCIGH-1-02

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:
Binder/Filler, Mineral grains, Sand
Quartz, Calcareous particles, Wood flakes

Other Fibrous Materials:%
Cellulose 7%

**Asbestos Type: %
None Detected ND**

Lab ID: 18099784 Client Sample #: CCIGH-1-03

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material with white coating

Non-Fibrous Materials:
Binder/Filler, Mineral grains, Sand
Quartz, Calcareous particles, Wood flakes

Other Fibrous Materials:%
Cellulose 5%

**Asbestos Type: %
None Detected ND**

Lab ID: 18099785 Client Sample #: CCIGH-1-04

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:
Binder/Filler, Mineral grains, Sand
Quartz, Calcareous particles, Insect parts

Other Fibrous Materials:%
Cellulose <1%
Spider silk <1%

**Asbestos Type: %
None Detected ND**

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CCI Gatehouses, Right Abutment Intake Structure

Batch #: 1819477.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099786 Client Sample #: CCIGH-1-05

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:

Binder/Filler, Mineral grains, Sand

Quartz, Calcareous particles, Fine grains

Other Fibrous Materials:%

Spider silk <1%

Asbestos Type: %

None Detected ND

Lab ID: 18099787 Client Sample #: CCIGH-1-06

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:

Binder/Filler, Mineral grains, Sand

Quartz, Calcareous particles

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Lab ID: 18099788 Client Sample #: CCIGH-1-07

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:

Binder/Filler, Mineral grains, Sand

Quartz, Calcareous particles, Insect parts

Other Fibrous Materials:%

Spider silk <1%

Asbestos Type: %

None Detected ND

Lab ID: 18099789 Client Sample #: CCIGH-1-08

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 2 Description: Gray brittle sandy material

Non-Fibrous Materials:

Binder/Filler, Mineral grains, Sand

Quartz, Calcareous particles, Fine grains

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CCI Gatehouses, Right Abutment Intake Structure

Batch #: 1819477.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Gray brittle sandy material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mineral grains, Sand	None Detected ND		None Detected ND
	Quartz, Calcareous particles			

Lab ID: 18099790 **Client Sample #: CCIGH-1-09**

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1	Description: Gray brittle sandy material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mineral grains, Sand	Spider silk <1%		None Detected ND
	Quartz, Calcareous particles, Insect parts			

Lab ID: 18099791 **Client Sample #: CCIGH-2-01**

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Fine particles	Cellulose 82%		None Detected ND
		Synthetic fibers 6%		

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose 3%		None Detected ND

Lab ID: 18099792 **Client Sample #: CCIGH-2-02**

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Calcareous particles, Fine particles	Cellulose 87%		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CCI Gatehouses, Right Abutment Intake Structure

Batch #: 1819477.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

	Wood flakes	Synthetic fibers	5%	
Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose	4%	None Detected ND

Lab ID: 18099793 **Client Sample #: CCIGH-2-03**

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose	87%	None Detected ND
	Insect parts, Wood flakes	Synthetic fibers	8%	
		Spider silk	<1%	

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose	4%	None Detected ND

Lab ID: 18099794 **Client Sample #: CCIGH-3-01**

Location: CCI Gatehouses, Right Abutment Intake Structure

Layer 1 of 1	Description: Gray soft putty material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mineral grains, Calcareous particles	Cellulose	2%	None Detected ND
	Fine particles			

Lab ID: 18099795 **Client Sample #: CCIGH-3-02**

Location: CCI Gatehouses, Right Abutment Intake Structure

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CCI Gatehouses, Right Abutment Intake Structure

Batch #: 1819477.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Gray soft putty material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Insect parts, Fine particles	Cellulose 2%		None Detected ND
	Calcareous particles			
<hr/>				
Lab ID: 18099796	Client Sample #: CCIGH-3-03			
Location: CCI Gatehouses, Right Abutment Intake Structure				
Layer 1 of 2	Description: Gray putty material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Calcareous particles	Cellulose 2%		None Detected ND
	Organic debris			
Layer 2 of 2	Description: White brittle sandy material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mineral grains, Sand	None Detected ND		None Detected ND
	Quartz, Calcareous particles, Fine particles			

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819477.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/8/2018 **Time** 5:00 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CCI Gatehouses, Right Abutment Intake Structure

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 15

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099782	CCIGH-1-01		A
2	18099783	CCIGH-1-02		A
3	18099784	CCIGH-1-03		A
4	18099785	CCIGH-1-04		A
5	18099786	CCIGH-1-05		A
6	18099787	CCIGH-1-06		A
7	18099788	CCIGH-1-07		A
8	18099789	CCIGH-1-08		A
9	18099790	CCIGH-1-09		A
10	18099791	CCIGH-2-01		A
11	18099792	CCIGH-2-02		A
12	18099793	CCIGH-2-03		A
13	18099794	CCIGH-3-01		A
14	18099795	CCIGH-3-02		A
15	18099796	CCIGH-3-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	William Minor		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 11:07 AM

Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

1819477

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC1 Gatehouses, Right Abutment Intake Structure

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other _____ | | |

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	CC1GH-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 1-04		
5	" - 1-05		
6	" - 1-06		
7	" - 1-07		
8	" - 1-08		
9	" - 1-09		
10	" - 2-01		
11	" - 2-02		
12	" - 2-03		
13	" - 3-01		
14	" - 3-02		
15	" - 3-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/02/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	7:00
Analyzed by					
Called by					
Faxed/Email by					

October 8, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819480.00

Client Project: 60537920 Task 2.4
Location: CC1 Maintenance Bldg.

Dear Ms. Gladu,

Enclosed please find test results for the 9 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Maintenance Bldg.

Batch #: 1819480.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099810 Client Sample #: CC1MB-1-01

Location: CC1 Maintenance Bldg.

Layer 1 of 2 Description: Black asphaltic fibrous material with white coating

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 84%	None Detected ND
Binder/Filler		

Layer 2 of 2 Description: Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Asphalt/Binder, Fine particles	Cellulose 4%	None Detected ND

Lab ID: 18099811 Client Sample #: CC1MB-1-02

Location: CC1 Maintenance Bldg.

Layer 1 of 3 Description: Black asphaltic material with white mineral grains

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Asphalt/Binder, Quartz, Calcareous particles	Cellulose 3%	None Detected ND
Fine grains, Fine particles		

Layer 2 of 3 Description: Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 87%	None Detected ND

Layer 3 of 3 Description: Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Asphalt/Binder, Fine particles	Cellulose 4%	None Detected ND

Lab ID: 18099812 Client Sample #: CC1MB-1-03

Location: CC1 Maintenance Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/08/2018

Date: 10/08/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Maintenance Bldg.

Batch #: 1819480.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	Description: Black asphaltic material with minerals and white coating			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Quartz, Calcareous particles	Cellulose 3%		None Detected ND
	Binder/Filler, Fine grains, Fine particles			
Layer 2 of 3	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 86%		None Detected ND
Layer 3 of 3	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 3%		None Detected ND

Lab ID: 18099813 Client Sample #: CC1MB-2-01

Location: CC1 Maintenance Bldg.

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 87%		None Detected ND
Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 4%		None Detected ND
	Insect parts			

Lab ID: 18099814 Client Sample #: CC1MB-2-02

Location: CC1 Maintenance Bldg.

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 90%		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/08/2018

Date: 10/08/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Maintenance Bldg.

Batch #: 1819480.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Calcareous particles	Cellulose 4%		None Detected ND
	Fine particles			

Lab ID: 18099815 Client Sample #: CC1MB-2-03

Location: CC1 Maintenance Bldg.

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Wood flakes, Organic debris	Cellulose 84%		None Detected ND
	Insect parts, Fine grains, Fine particles	Spider silk <1%		
	Calcareous particles	Synthetic fibers <1%		

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Fine particles	Cellulose 4%		None Detected ND
	Calcareous particles			

Lab ID: 18099816 Client Sample #: CC1MB-3-01

Location: CC1 Maintenance Bldg.

Layer 1 of 1	Description: White brittle material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	Cellulose 2%		None Detected ND

Lab ID: 18099817 Client Sample #: CC1MB-3-02

Location: CC1 Maintenance Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/08/2018

Date: 10/08/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Maintenance Bldg.

Batch #: 1819480.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: White brittle material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	Cellulose 2%		None Detected ND
		Synthetic fibers <1%		

Lab ID: 18099818 **Client Sample #: CC1MB-3-03**

Location: CC1 Maintenance Bldg.

Layer 1 of 1	Description: White brittle material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	Cellulose 4%		None Detected ND
	Wood flakes			

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/08/2018

Date: 10/08/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** **1819480.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Maintenance Bldg.

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 9

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099810	CC1MB-1-01		A
2	18099811	CC1MB-1-02		A
3	18099812	CC1MB-1-03		A
4	18099813	CC1MB-2-01		A
5	18099814	CC1MB-2-02		A
6	18099815	CC1MB-2-03		A
7	18099816	CC1MB-3-01		A
8	18099817	CC1MB-3-02		A
9	18099818	CC1MB-3-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	William Minor		NVL	10/8/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 11:12 AM

Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

1819480

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CCI MAINTENANCE BLDG

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other _____ | | |

Reporting Instructions email Nicole Gladu

☐ Call (_____) _____

☐ Fax (_____) _____

☒ Email shannon.mackay@aecom.com

Total Number of Samples 9

	Sample ID	Description	A/R
1	CCIMB-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18 - 9/11/18	8am-4pm
Relinquish by	Shannon Mackay	<i>Shannon Mackay</i>	AECOM	9/28/18	5pm
				10/02/18	5pm
Office Use Only					
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819491.00

Client Project: 60537920 Task 2.4
Location: CC1 Powerhouse

Dear Ms. Gladu,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1819491.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099882 Client Sample #: CC1PH-4-01

Location: CC1 Powerhouse

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:
Calcareous binder, Calcareous particles, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
Chrysotile 3%

Lab ID: 18099883 Client Sample #: CC1PH-4-02

Location: CC1 Powerhouse

Layer 1 of 1 Description: White brittle material

Non-Fibrous Materials:
Calcareous binder, Calcareous particles, Insect parts

Other Fibrous Materials:%
Cellulose 2%
Spider silk <1%

Asbestos Type: %
Chrysotile 3%

Lab ID: 18099884 Client Sample #: CC1PH-4-03

Location: CC1 Powerhouse

Layer 1 of 1 Description: White brittle material

Non-Fibrous Materials:
Calcareous binder, Calcareous particles, Insect parts

Other Fibrous Materials:%
Cellulose 2%
Spider silk <1%

Asbestos Type: %
Chrysotile 3%

Lab ID: 18099885 Client Sample #: CC1PH-5-01

Location: CC1 Powerhouse

Layer 1 of 2 Description: Silver paint

Non-Fibrous Materials:
Metallic paint, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1819491.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Orange rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected	ND	None Detected ND

Lab ID: 18099886 **Client Sample #: CC1PH-5-02**

Location: CC1 Powerhouse

Layer 1 of 2	Description: Silver paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Metallic paint, Fine particles	Cellulose	2%	None Detected ND

Layer 2 of 2	Description: Orange rubbery material with blue paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Paint	None Detected	ND	None Detected ND

Lab ID: 18099887 **Client Sample #: CC1PH-5-03**

Location: CC1 Powerhouse

Layer 1 of 2	Description: Silver paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Metallic paint, Fine particles	Cellulose	2%	None Detected ND

Layer 2 of 2	Description: Orange rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected	ND	None Detected ND

Lab ID: 18099888 **Client Sample #: CC1PH-7-01**

Location: CC1 Powerhouse

Layer 1 of 1	Description: Gray brittle material with white coating			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Cellulose	<1%	None Detected ND
	Sand, Calcareous particles, Insect parts	Spider silk	<1%	

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1819491.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099889 **Client Sample #: CC1PH-7-02**

Location: CC1 Powerhouse

Layer 1 of 1 **Description:** Gray brittle material with white coating

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine grains, Fine particles	None Detected ND	
Calcareous particles, Sand		

Lab ID: 18099890 **Client Sample #: CC1PH-7-03**

Location: CC1 Powerhouse

Layer 1 of 1 **Description:** Gray brittle material with gray coating

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Glass beads, Glass debris	Cellulose <1%	
Sand, Calcareous particles	Spider silk <1%	

Lab ID: 18099891 **Client Sample #: CC1PH-7-04**

Location: CC1 Powerhouse

Layer 1 of 1 **Description:** Gray brittle material with gray coating

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Sand, Fine grains	None Detected ND	
Fine particles, Calcareous particles		

Lab ID: 18099892 **Client Sample #: CC1PH-7-05**

Location: CC1 Powerhouse

Layer 1 of 1 **Description:** Gray brittle material with white coating

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine grains, Fine particles	None Detected ND	
Calcareous binder, Sand		

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1819491.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099893 Client Sample #: CC1PH-7-06

Location: CC1 Powerhouse

Layer 1 of 1 Description: Gray brittle material with red coating

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Fine grains, Fine particles	Cellulose 2%
Calcareous particles, Sand, Insect parts	Spider silk <1%

Asbestos Type: %
None Detected ND

Lab ID: 18099894 Client Sample #: CC1PH-7-07

Location: CC1 Powerhouse

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Fine grains, Fine particles	Spider silk <1%
Calcareous particles, Insect parts, Organic debris	
Sand	

Asbestos Type: %
None Detected ND

Lab ID: 18099895 Client Sample #: CC1PH-7-08

Location: CC1 Powerhouse

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Fine grains, Fine particles	Cellulose <1%
Sand, Calcareous particles	

Asbestos Type: %
None Detected ND

Lab ID: 18099896 Client Sample #: CC1PH-7-09

Location: CC1 Powerhouse

Layer 1 of 1 Description: Gray brittle material with white powdery coating

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Calcareous particles, Fine particles	Spider silk <1%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1819491.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Fine grains, Insect parts, Sand

Cellulose <1%

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819491.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/8/2018 **Time** 5:00 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Powerhouse

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 15

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099882	CC1PH-4-01		A
2	18099883	CC1PH-4-02		A
3	18099884	CC1PH-4-03		A
4	18099885	CC1PH-5-01		A
5	18099886	CC1PH-5-02		A
6	18099887	CC1PH-5-03		A
7	18099888	CC1PH-7-01		A
8	18099889	CC1PH-7-02		A
9	18099890	CC1PH-7-03		A
10	18099891	CC1PH-7-04		A
11	18099892	CC1PH-7-05		A
12	18099893	CC1PH-7-06		A
13	18099894	CC1PH-7-07		A
14	18099895	CC1PH-7-08		A
15	18099896	CC1PH-7-09		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	William Minor		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 11:42 AM

Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

1819491

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|--|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input checked="" type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CCI POWERHOUSE

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other _____ | | |

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	CCIPH-4-01		
2	" - 4-02		
3	" - 4-03		
4	" - 5-01		
5	" - 5-02		
6	" - 5-03		
7	" - 7-01		
8	" - 7-02		
9	" - 7-03		
10	" - 7-04		
11	" - 7-05		
12	" - 7-06		
13	" - 7-07		
14	" - 7-08		
15	" - 7-09		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/2/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					

December 26, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1825188.00

Client Project: 60537920 Task 2.4
Location: Copco 1 Residence 1

Dear Ms. Gladu,

Enclosed please find test results for the 7 sample(s) submitted to our laboratory for analysis on 12/21/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.


For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,


Munaf Khan, Laboratory Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: Copco 1 Residence 1

Batch #: 1825188.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 7

Samples Analyzed: 7

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18129783 Client Sample #: CC1R1-1-04

Location: Copco 1 Residence 1

Layer 1 of 2 Description: White sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder, Synthetic foam, Fine particles	None Detected ND	None Detected ND

Layer 2 of 2 Description: Off-white fibrous material with white/brown mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine grains, Fine particles	Cellulose 7%	Chrysotile 26%
Mastic/Binder		

Lab ID: 18129784 Client Sample #: CC1R1-14-01

Location: Copco 1 Residence 1

Layer 1 of 2 Description: Black brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine grains, Fine particles	None Detected ND	Chrysotile 3%

Layer 2 of 2 Description: Off-white crumbly material with tan fibrous material and paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine grains, Fine particles	Cellulose 16%	None Detected ND
Paint, Wood flakes		

Lab ID: 18129785 Client Sample #: CC1R1-14-02

Location: Copco 1 Residence 1

Layer 1 of 2 Description: Black brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine grains, Fine particles	None Detected ND	Chrysotile 3%


Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018


Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: Copco 1 Residence 1

Batch #: 1825188.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 7

Samples Analyzed: 7

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Off-white crumbly material with tan fibrous material and paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Cellulose 15%		None Detected ND
	Paint, Wood flakes			

Lab ID: 18129786 **Client Sample #: CC1R1-14-03**

Location: Copco 1 Residence 1

Layer 1 of 2	Description: Black brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Cellulose 3%		Chrysotile 2%

Layer 2 of 2	Description: Off-white crumbly material with trace of tan fibrous material and paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Cellulose 7%		None Detected ND
	Paint, Wood flakes			

Lab ID: 18129787 **Client Sample #: CC1R1-15-01**

Location: Copco 1 Residence 1

Layer 1 of 2	Description: White compacted powdery material with yellow fibrous mesh			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Glass fibers 13%		None Detected ND

Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 17%		None Detected ND
		Glass fibers 2%		

Lab ID: 18129788 **Client Sample #: CC1R1-15-02**

Location: Copco 1 Residence 1

Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018



Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: Copco 1 Residence 1

Batch #: 1825188.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 7

Samples Analyzed: 7

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: White compacted powdery material with yellow fibrous mesh and paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	Glass fibers 15%		None Detected ND
	Paint			
Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 18%		None Detected ND
<hr/>				
Lab ID: 18129789	Client Sample #: CC1R1-15-03			
Location: Copco 1 Residence 1				
Layer 1 of 2	Description: White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine grains, Fine particles	None Detected ND		None Detected ND
	Paint			
Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 18%		None Detected ND

Sampled by: Client

Analyzed by: Akane Yoshikawa

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018



Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1825188.00
TAT 1 Day **AH** No
Rush TAT
Due Date 12/26/2018 **Time** 4:55 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** Copco 1 Residence 1

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 7

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18129783	CC1R1-1-04		A
2	18129784	CC1R1-14-01		A
3	18129785	CC1R1-14-02		A
4	18129786	CC1R1-14-03		A
5	18129787	CC1R1-15-01		A
6	18129788	CC1R1-15-02		A
7	18129789	CC1R1-15-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	12/21/18	1655
Analyzed by	Akane Yoshikawa		NVL	12/26/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 12/26/2018
 Time: 11:28 AM
 Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

1825188

8m
☐ 1 Hour ☒ 24 Hours ☒ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days
Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CEPCO 1 RESIDENCE 1

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 7

	Sample ID	Description	A/R
1	CCIR1-1-04		
2	CCIR1-14-01		
3	CCIR1-14-02		
4	CCIR1-14-03		
5	CCIR1-15-01		
6	CCIR1-15-02		
7	CCIR1-15-03		
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	12/19/18	9:30am
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	12/21/18	6:00pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	12/21/18	1655
Analyzed by					
Called by					
Faxed/Email by					

October 10, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819506.01

Client Project: 60537920 Task 2.4
Location: CC1 Residence 1

Dear Ms. Gladu,

Enclosed please find test results for the 27 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099957 Client Sample #: CC1R1-1-01

Location: CC1 Residence 1

Comments: No mastic present

Layer 1 of 1 Description: White vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Lab ID: 18099958 Client Sample #: CC1R1-1-02

Location: CC1 Residence 1

Layer 1 of 4 Description: White vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 4 Description: White brittle mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
Cellulose <1%

Asbestos Type: %
None Detected ND

Layer 3 of 4 Description: White chalky material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 4 of 4 Description: Yellow brittle mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
Cellulose <1%

Asbestos Type: %
None Detected ND

Lab ID: 18099959 Client Sample #: CC1R1-1-03

Location: CC1 Residence 1

Layer 1 of 2 Description: White vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: White brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	None Detected ND	None Detected ND

Lab ID: 18099960 **Client Sample #: CC1R1-2-01**

Location: CC1 Residence 1

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Vinyl/Binder, Synthetic foam	None Detected ND	None Detected ND

Layer 2 of 2	Description: Gray fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Mastic/Binder	Cellulose 31%	Chrysotile 46%

Lab ID: 18099961 **Client Sample #: CC1R1-2-02**

Location: CC1 Residence 1

Layer 1 of 4	Description: Tan sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Vinyl/Binder, Synthetic foam	None Detected ND	None Detected ND

Layer 2 of 4	Description: Gray fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Mastic/Binder	Cellulose 34%	Chrysotile 47%

Layer 3 of 4	Description: Tan linoleum	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Linoleum/Binder	Cellulose 17%	None Detected ND

Layer 4 of 4	Description: Black asphaltic fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Asphalt/Binder, Mastic/Binder	Cellulose 56%	None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099962 Client Sample #: CC1R1-2-03

Location: CC1 Residence 1

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Vinyl/Binder	None Detected ND	
Layer 2 of 2	Description: Gray fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Mastic/Binder	Cellulose 30%	

Chrysotile 44%

Lab ID: 18099963 Client Sample #: CC1R1-3-01

Location: CC1 Residence 1

Layer 1 of 2	Description: Gray rubbery material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Rubber/Binder	None Detected ND	
Layer 2 of 2	Description: White soft mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	Spider silk 2%	

None Detected ND

Lab ID: 18099964 Client Sample #: CC1R1-3-02

Location: CC1 Residence 1

Layer 1 of 2	Description: Gray rubbery material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Rubber/Binder	None Detected ND	
Layer 2 of 2	Description: Off-white soft mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Mastic/Binder	Synthetic fibers 2%	

None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099965 Client Sample #: CC1R1-3-03

Location: CC1 Residence 1

Layer 1 of 3 Description: Gray rubbery material

Non-Fibrous Materials:
Rubber/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 3 Description: Off-white soft mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
Cellulose <1%

Asbestos Type: %
None Detected ND

Layer 3 of 3 Description: Tan brittle mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
Talc fibers 2%

Asbestos Type: %
None Detected ND

Lab ID: 18099966 Client Sample #: CC1R1-4-01

Location: CC1 Residence 1

Layer 1 of 2 Description: Light gray sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Gray fibrous backing with mastic (on wood)

Non-Fibrous Materials:
Binder/Filler, Mastic/Binder

Other Fibrous Materials:%
Cellulose 52%
Glass fibers 16%

Asbestos Type: %
None Detected ND

Lab ID: 18099967 Client Sample #: CC1R1-4-02

Location: CC1 Residence 1

Layer 1 of 2 Description: Light gray sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Wood flakes	Cellulose 43%		None Detected ND
		Glass fibers 20%		

Lab ID: 18099968 **Client Sample #: CC1R1-4-03**

Location: CC1 Residence 1

Layer 1 of 2	Description: Light gray sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Synthetic foam	None Detected ND		None Detected ND

Layer 2 of 2	Description: Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder	Cellulose 47%		None Detected ND
		Glass fibers 18%		

Lab ID: 18099969 **Client Sample #: CC1R1-5-01**

Location: CC1 Residence 1

Layer 1 of 1	Description: Tan brittle material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral/Binder, Mineral grains, Paint	None Detected ND		None Detected ND

Lab ID: 18099970 **Client Sample #: CC1R1-5-02**

Location: CC1 Residence 1

Layer 1 of 1	Description: Tan brittle material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral/Binder, Mineral grains, Paint	None Detected ND		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18099971** **Client Sample #: CC1R1-5-03**

Location: CC1 Residence 1

Layer 1 of 1 **Description:** Tan brittle material with paintNon-Fibrous Materials:
Mineral/Binder, Mineral grains, PaintOther Fibrous Materials:%
None Detected ND**Asbestos Type: %**
None Detected ND**Lab ID: 18099972** **Client Sample #: CC1R1-6-01**

Location: CC1 Residence 1

Layer 1 of 1 **Description:** Black asphaltic fibrous material with granulesNon-Fibrous Materials:
Asphalt/Binder, Binder/Filler, GranulesOther Fibrous Materials:%
Cellulose 53%**Asbestos Type: %**
None Detected ND**Lab ID: 18099973** **Client Sample #: CC1R1-6-02**

Location: CC1 Residence 1

Layer 1 of 1 **Description:** Black asphaltic fibrous material with granulesNon-Fibrous Materials:
Asphalt/Binder, Binder/Filler, GranulesOther Fibrous Materials:%
Cellulose 52%**Asbestos Type: %**
None Detected ND**Lab ID: 18099974** **Client Sample #: CC1R1-6-03**

Location: CC1 Residence 1

Layer 1 of 1 **Description:** Black asphaltic fibrous material with granulesNon-Fibrous Materials:
Asphalt/Binder, Binder/Filler, GranulesOther Fibrous Materials:%
Cellulose 58%**Asbestos Type: %**
None Detected ND**Lab ID: 18099975** **Client Sample #: CC1R1-7-01**

Location: CC1 Residence 1

Layer 1 of 3 **Description:** Thin crumbly brown masticNon-Fibrous Materials:
Mastic/Binder, Miscellaneous particlesOther Fibrous Materials:%
Cellulose 1%**Asbestos Type: %**
None Detected ND**Sampled by:** Client**Analyzed by:** Welly Hsieh**Reviewed by:** Matt Macfarlane**Date:** 10/08/2018**Date:** 10/10/2018


 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

		Synthetic fibers	<1%	
Layer 2 of 3	Description: Thin multicolored crumbly vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected	ND	None Detected ND
Layer 3 of 3	Description: Black asphaltic fibrous backing			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose	58%	None Detected ND
		Synthetic fibers	14%	

Lab ID: 18099976 **Client Sample #: CC1R1-7-02**

Location: CC1 Residence 1

Layer 1 of 2	Description: Thin crumbly multicolored vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected	ND	None Detected ND
Layer 2 of 2	Description: Black asphaltic fibrous backing			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose	53%	None Detected ND
		Synthetic fibers	17%	

Lab ID: 18099977 **Client Sample #: CC1R1-7-03**

Location: CC1 Residence 1

Layer 1 of 2	Description: Thin multicolored crumbly vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected	ND	None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Black asphaltic fibrous backing			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 52%		None Detected ND
		Synthetic fibers 13%		

Lab ID: 18099978 **Client Sample #: CC1R1-8-01**

Location: CC1 Residence 1

Layer 1 of 3	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose <1%		None Detected ND
Layer 2 of 3	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 63%		None Detected ND
Layer 3 of 3	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 3%		None Detected ND

Lab ID: 18099979 **Client Sample #: CC1R1-8-02**

Location: CC1 Residence 1

Layer 1 of 3	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles	None Detected ND		None Detected ND
Layer 2 of 3	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 60%		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: Black asphaltic material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Asphalt/Binder	Cellulose 2%	None Detected ND

Lab ID: 18099980 Client Sample #: CC1R1-8-03

Location: CC1 Residence 1

Layer 1 of 3	Description: Black asphaltic material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Asphalt/Binder, Fine particles	Cellulose <1%	None Detected ND

Layer 2 of 3	Description: Black asphaltic fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Asphalt/Binder, Binder/Filler	Cellulose 67%	None Detected ND

Layer 3 of 3	Description: Black asphaltic material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Asphalt/Binder, Fine particles	Cellulose 3%	None Detected ND

Lab ID: 18099981 Client Sample #: CC1R1-9-01

Location: CC1 Residence 1

Layer 1 of 1	Description: Gray brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	Cellulose <1%	Chrysotile 4%

Lab ID: 18099982 Client Sample #: CC1R1-9-02

Location: CC1 Residence 1

Layer 1 of 1	Description: Gray brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	None Detected ND	Chrysotile 3%

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018



Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 1

Batch #: 1819506.01

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 27

Samples Analyzed: 27

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099983 **Client Sample #: CC1R1-9-03**

Location: CC1 Residence 1

Layer 1 of 1 **Description:** Gray brittle mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 5%

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/10/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819506.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/8/2018 **Time** 5:00 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence 1

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 27

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099957	CC1R1-1-01		A
2	18099958	CC1R1-1-02		A
3	18099959	CC1R1-1-03		A
4	18099960	CC1R1-2-01		A
5	18099961	CC1R1-2-02		A
6	18099962	CC1R1-2-03		A
7	18099963	CC1R1-3-01		A
8	18099964	CC1R1-3-02		A
9	18099965	CC1R1-3-03		A
10	18099966	CC1R1-4-01		A
11	18099967	CC1R1-4-02		A
12	18099968	CC1R1-4-03		A
13	18099969	CC1R1-5-01		A
14	18099970	CC1R1-5-02		A
15	18099971	CC1R1-5-03		A
16	18099972	CC1R1-6-01		A
17	18099973	CC1R1-6-02		A
18	18099974	CC1R1-6-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Welly Hsieh		NVL	10/8/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 12:06 PM

Entered By: Emily Schubert

Company AECOM-Seattle **NVL Batch Number** 1819506.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence 1

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 27

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18099975	CC1R1-7-01		A
20	18099976	CC1R1-7-02		A
21	18099977	CC1R1-7-03		A
22	18099978	CC1R1-8-01		A
23	18099979	CC1R1-8-02		A
24	18099980	CC1R1-8-03		A
25	18099981	CC1R1-9-01		A
26	18099982	CC1R1-9-02		A
27	18099983	CC1R1-9-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Welly Hsieh		NVL	10/8/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 12:06 PM

Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

1819506

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CCI RESIDENCE 1

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other _____ | | |

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 27

	Sample ID	Description	A/R
1	CCIR1-1-01		
2	" -1-02		
3	" -1-03		
4	" -2-01		
5	" -2-02		
6	" -2-03		
7	" -3-01		
8	" -3-02		
9	" -3-03		
10	" -4-01		
11	" -4-02		
12	" -4-03		
13	" -5-01		
14	" -5-02		
15	" -5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/2/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	10/2/18	NVL	1700
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

1819506

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CCI RESIDENCE 1

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 27

	Sample ID	Description	A/R
1	CCIRI-6-01		
2	" - 6-02		
3	" - 6-03		
4	" - 7-01		
5	" - 7-02		
6	" - 7-03		
7	" - 8-01		
8	" - 8-02		
9	" - 8-03		
10	" - 9-01		
11	" - 9-02		
12	" - 9-03		
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/2/18	9pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					

October 25, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819283.01

Client Project: 60537920 Task 2.4
Location: CC1 Residence 2

Dear Ms. Gladu,

Enclosed please find test results for the 12 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1819283.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 12

Samples Analyzed: 12

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098678 Client Sample #: CC1R2-1-01

Location: CC1 Residence 2

Layer 1 of 1 Description: White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Calcareous particles, Paint	Cellulose 2%	Chrysotile 2%

Lab ID: 18098679 Client Sample #: CC1R2-1-02

Location: CC1 Residence 2

Layer 1 of 1 Description: White compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Calcareous particles, Paint	Cellulose 5%	None Detected ND
Wood flakes		

Lab ID: 18098680 Client Sample #: CC1R2-1-03

Location: CC1 Residence 2

Layer 1 of 1 Description: White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Calcareous particles, Paint	Cellulose 2%	None Detected ND

Lab ID: 18098681 Client Sample #: CC1R2-2-01

Location: CC1 Residence 2

Layer 1 of 3 Description: White rubbery material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder	None Detected ND	None Detected ND

Layer 2 of 3 Description: White firm mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder	Cellulose 2%	None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1819283.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 12

Samples Analyzed: 12

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Calcareous particles, Paint	None Detected ND		None Detected ND

Lab ID: 18098682 **Client Sample #: CC1R2-2-02**

Location: CC1 Residence 2

Layer 1 of 2	Description: White rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND

Layer 2 of 2	Description: White firm mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Paint	Cellulose 2%		None Detected ND

Lab ID: 18098683 **Client Sample #: CC1R2-2-03**

Location: CC1 Residence 2

Layer 1 of 2	Description: Soft white material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND

Layer 2 of 2	Description: Soft off-white mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	None Detected ND		None Detected ND

Lab ID: 18098684 **Client Sample #: CC1R2-3-01**

Location: CC1 Residence 2

Layer 1 of 2	Description: Beige sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Synthetic foam	None Detected ND		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1819283.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 12

Samples Analyzed: 12

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: White fibrous backing with tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Mastic/Binder	Cellulose 34%		None Detected ND
		Glass fibers 26%		

Lab ID: 18098685 **Client Sample #: CC1R2-3-02**

Location: CC1 Residence 2

Layer 1 of 2	Description: Beige sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Synthetic foam	None Detected ND		None Detected ND

Layer 2 of 2	Description: White fibrous backing with tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Mastic/Binder	Cellulose 35%		None Detected ND
		Glass fibers 27%		

Lab ID: 18098686 **Client Sample #: CC1R2-3-03**

Location: CC1 Residence 2

Layer 1 of 2	Description: Beige sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND

Layer 2 of 2	Description: White fibrous backing with white mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Fine particles	Cellulose 37%		None Detected ND
		Glass fibers 24%		

Lab ID: 18098687 **Client Sample #: CC1R2-4-01**

Location: CC1 Residence 2

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1819283.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 12

Samples Analyzed: 12

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 4	Description: White sheet vinyl	Non-Fibrous Materials: Vinyl/Binder, Synthetic foam	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 4	Description: White firm material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 3 of 4	Description: White fibrous backing with mastic	Non-Fibrous Materials: Binder/Filler, Fine particles, Mastic/Binder	Other Fibrous Materials:% Cellulose 36% Glass fibers 26%	Asbestos Type: % None Detected ND
Layer 4 of 4	Description: Tan firm mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% Cellulose 2%	Asbestos Type: % None Detected ND

Lab ID: 18098688 **Client Sample #: CC1R2-4-02**

Location: CC1 Residence 2

Layer 1 of 3	Description: Tan soft mastic with gray soft material	Non-Fibrous Materials: Mastic/Binder, Fine grains, Fine particles Binder/Filler, Calcareous particles	Other Fibrous Materials:% Cellulose 3%	Asbestos Type: % None Detected ND
Layer 2 of 3	Description: Beige sheet vinyl	Non-Fibrous Materials: Vinyl/Binder, Synthetic foam	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 3 of 3	Description: Yellow fibrous backing with mastic and wood chips	Non-Fibrous Materials: Binder/Filler, Fine particles, Mastic/Binder	Other Fibrous Materials:% Cellulose 38%	Asbestos Type: % None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1819283.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 12

Samples Analyzed: 12

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Wood flakes

Glass fibers 24%

Lab ID: 18098689 **Client Sample #: CC1R2-4-03**

Location: CC1 Residence 2

Layer 1 of 3 **Description:** Yellow mastic

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Mastic/Binder, Fine particles, Carbonaceous material

Cellulose 4%

None Detected ND

Layer 2 of 3 **Description:** Off-white sheet vinyl

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Vinyl/Binder, Synthetic foam

None Detected ND

None Detected ND

Layer 3 of 3 **Description:** White fibrous backing with yellow mastic

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Binder/Filler, Mastic/Binder, Fine particles

Cellulose 38%

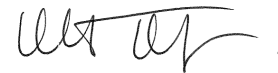
None Detected ND

Glass fibers 24%

Sampled by: Client

Analyzed by: William Minor

Date: 10/04/2018



Reviewed by: Matt Macfarlane

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819283.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence 2

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 12

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098678	CC1R2-1-01		A
2	18098679	CC1R2-1-02		A
3	18098680	CC1R2-1-03		A
4	18098681	CC1R2-2-01		A
5	18098682	CC1R2-2-02		A
6	18098683	CC1R2-2-03		A
7	18098684	CC1R2-3-01		A
8	18098685	CC1R2-3-02		A
9	18098686	CC1R2-3-03		A
10	18098687	CC1R2-4-01		A
11	18098688	CC1R2-4-02		A
12	18098689	CC1R2-4-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	William Minor		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 3:00 PM

Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

1819283

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CCI RESIDENCE 2

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other | | |

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples

	Sample ID	Description	A/R
1	CCIRZ-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC		AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay		AECOM	9/28/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Franklin		NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 8, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819481.00

Client Project: 60537920 Task 2.4
Location: CC1 Residence Shed

Dear Ms. Gladu,

Enclosed please find test results for the 6 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence Shed

Batch #: 1819481.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099819 Client Sample #: CC1RS-1-01

Location: CC1 Residence Shed

Layer 1 of 1 Description: White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Gypsum/Binder, Binder/Filler, Wood flakes	Cellulose 24%	None Detected ND

Lab ID: 18099820 Client Sample #: CC1RS-1-02

Location: CC1 Residence Shed

Layer 1 of 1 Description: White chalky material with paper and paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Gypsum/Binder, Binder/Filler, Paint	Cellulose 18%	None Detected ND
Wood flakes		

Lab ID: 18099821 Client Sample #: CC1RS-1-03

Location: CC1 Residence Shed

Layer 1 of 1 Description: White chalky material with paper and paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Gypsum/Binder, Binder/Filler, Paint	Cellulose 21%	None Detected ND
Wood flakes		

Lab ID: 18099822 Client Sample #: CC1RS-2-01

Location: CC1 Residence Shed

Layer 1 of 2 Description: Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Asphalt/Binder, Binder/Filler, Mineral grains	Cellulose 62%	None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/08/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence Shed

Batch #: 1819481.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose <1%		None Detected ND

Lab ID: 18099823 **Client Sample #: CC1RS-2-01**

Location: CC1 Residence Shed

Layer 1 of 2	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler, Mineral grains	Cellulose 58%		None Detected ND
		Spider silk 2%		

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	None Detected ND		None Detected ND

Lab ID: 18099824 **Client Sample #: CC1RS-2-03**

Location: CC1 Residence Shed

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler, Mineral grains	Cellulose 64%		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/08/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819481.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/8/2018 **Time** 5:00 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence Shed

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 6

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099819	CC1RS-1-01		A
2	18099820	CC1RS-1-02		A
3	18099821	CC1RS-1-03		A
4	18099822	CC1RS-2-01		A
5	18099823	CC1RS-2-01		A
6	18099824	CC1RS-2-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Welly Hsieh		NVL	10/8/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 11:16 AM

Entered By: Shaina Mitchell

1819481



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location

CCI RESIDENCE SHED

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples _____

	Sample ID	Description	A/R
1	<u>CCIRS-1-01</u>		
2	<u>" - 1-02</u>		
3	<u>" - 1-03</u>		
4	<u>" - 2-01</u>		
5	<u>" - 2-02</u>		
6	<u>" - 2-03</u>		
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	<u>David Simon, CAC</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18 - 9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>		<u>AECOM</u>	<u>10/2/18</u>	<u>5pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S. Mitchell</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/2/18</u>	<u>1700</u>
Analyzed by					
Called by					
Faxed/Email by					



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 041834062

Customer ID: URSC50

Customer PO:

Project ID:

Attention: Shannon Mackay

AECOM

1501 4th Avenue

Suite 1400

Seattle, WA 98101

Project: 60537920 Task 2.4

Phone: (206) 674-1800

Fax: (206) 648-5705

Received: 11/14/2018 9:30 AM

Analysis Date: 11/27/2018

Collected: 09/10/2018

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CC1PS-01 041834062-0001	Copco 1 - Penstock Thrust Block	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CC1RAIS-1-01 041834062-0002	Copco 1 - Right Abutment Intake Structure	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CC1PH-3-03 041834062-0003	Copco 1 - Powerhouse - Main Level	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CC1PH-12-01 041834062-0004	Copco 1 - Powerhouse Exterior Concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Will DiBella (4)

Benjamin Ellis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAP unless otherwise specified. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Initial report from: 11/27/2018 23:21:52

October 25, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



**RE: Bulk Asbestos Fiber Concentration by Point Count
NVL Batch # 1820760**

Client Project: 60537920 Task 2.4
Location: CC1 Powerhouse

Dear Ms. Gladu,

At your request, NVL Laboratories conducted analysis of your sample to determine the asbestos concentration using point count procedures.

The sample was analyzed for the presence of asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with U.S. EPA method 600/R-93/116.

Eight slides of thoroughly homogenized material are prepared for any given sample that requires point counting. In order to be counted as a point, the crosshairs of the microscope must center on either a fiber or a particle. The analyst counts at least 125 points per slide preparation. A minimum of 1000 non-empty points are counted, then the number of counted asbestos fibers are divided by the total number of points counted to arrive at the percentage of asbestos in the sample.

The detection limit for 1000 point counts is 0.1%. We will report <0.1% if asbestos fibers observed but not landed at the cross-hair in the field view. No asbestos fibers observed in the field view will be reported as zero percent.

Please see the conclusion section of the lab reports for point count results.

It has been a pleasure to be of service to you. Please feel free to call if there is anything further we can assist you with.

A handwritten signature in black ink, appearing to read "Nick Ly".

Sincerely,
Nick Ly, Technical Director



Lab Code:102063

Enc.: Sample Results

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1820760.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600R-93/116

Lab ID : 18106251 Client Sample #: CC1PH-4-01 Layer 1**Sample Description:** Analyzing layer 1 of 1: Gray brittle material

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation.

Asbestos content was originally found to be 3 % in Layer 1 . Corresponding Lab ID 18099882

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	2	123	125
2	3	122	125
3	2	123	125
4	2	123	125
5	1	124	125
6	1	124	125
7	1	124	125
8	2	123	125
Total	14	986	1000

Conclusion: This Sample Contains 1.4 % ASBESTOS**Sampled by:** Client**Analyzed by:** William Minor**Reviewed by:** Nick Ly**Date:** 10/25/2018**Date:** 10/25/2018


Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1820760.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600R-93/116

Lab ID : 18106252 Client Sample #: CC1PH-4-02 Layer 1

Sample Description: Analyzing layer 1 of 1: White brittle material

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 3 % in Layer 1. Corresponding Lab ID 18099883

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	1	124	125
2	2	123	125
3	1	124	125
4	2	123	125
5	2	123	125
6	2	123	125
7	1	124	125
8	1	124	125
Total	12	988	1000

Conclusion: This Sample Contains 1.2 % ASBESTOS

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/25/2018

Date: 10/25/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Powerhouse

Batch #: 1820760.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600R-93/116

Lab ID : 18106253 **Client Sample #:** CC1PH-4-03 Layer 1

Sample Description: Analyzing layer 1 of 1: White brittle material

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation.

Asbestos content was originally found to be 3 % in Layer 1 . Corresponding Lab ID 18099884

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	1	124	125
2	2	123	125
3	3	122	125
4	2	123	125
5	2	123	125
6	1	124	125
7	2	123	125
8	2	123	125
Total	15	985	1000

Conclusion: This Sample Contains 1.5 % ASBESTOS

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/25/2018

Date: 10/25/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

Company AECOM-Seattle **NVL Batch Number** 1820760.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 5 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/26/2018 **Time** 10:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Powerhouse

Subcategory PLM Bulk

Item Code ASB-04 EPA 600/R-93-116 Asbestos by PLM (1000 points) <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18106251	CC1PH-4-01 Layer 1		A
2	18106252	CC1PH-4-02 Layer 1		A
3	18106253	CC1PH-4-03 Layer 1		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Emailed by Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/19/18	1015
Analyzed by	William Minor		NVL	10/25/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Samples originally from Batch 1819491

Instructions:

Date: 10/19/2018

Time: 10:54 AM

Entered By: Emily Schubert

Emily Schubert

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Friday, October 19, 2018 10:14 AM
To: Client Services
Subject: 60537920 1000 Point Count (more coming)

Please PLM point count, 1000 pts, 5 day TAT, the following samples and layers. Please analyze layers separately:

Batch

1819491

Sample #s

CC1PH-4-01 Layer 1

CC1PH-4-02 Layer 1

CC1PH-4-03 Layer 1

I submitted this as a 400 count, but I need it to be 1000 point counted.

Batch

1819283

Sample #

CC1R2-1-01 Layer 1

I submitted these as a 400 count, but I need them to be 1000 point counted.

Batch

1819284

Sample #s

CC2FS-6-01 Layer 1

CC2FS-6-01 Layer 2

CC2FS-6-02 Layer 1

CC2FS-6-02 Layer 2

CC2FS-6-03 Layer 1

CC2FS-6-03 Layer 2

Thanks,

Shannon MacKay

Sr. Environmental Scientist, Environmental Compliance

D 206-438-2232 C 206-999-2112

shannon.mackay@aecom.com

AECOM

1111 3rd Avenue, Suite 1600 Seattle, WA 98101

206-438-2700 Fax 866-438-2166

www.aecom.com

October 25, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



**RE: Bulk Asbestos Fiber Concentration by Point Count
NVL Batch # 1820758**

Client Project: 60537920 Task 2.4
Location: CC1 Residence 2

Dear Ms. Gladu,

At your request, NVL Laboratories conducted analysis of your sample to determine the asbestos concentration using point count procedures.

The sample was analyzed for the presence of asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with U.S. EPA method 600/R-93/116.

Eight slides of thoroughly homogenized material are prepared for any given sample that requires point counting. In order to be counted as a point, the crosshairs of the microscope must center on either a fiber or a particle. The analyst counts at least 125 points per slide preparation. A minimum of 1000 non-empty points are counted, then the number of counted asbestos fibers are divided by the total number of points counted to arrive at the percentage of asbestos in the sample.

The detection limit for 1000 point counts is 0.1%. We will report <0.1% if asbestos fibers observed but not landed at the cross-hair in the field view. No asbestos fibers observed in the field view will be reported as zero percent.

Please see the conclusion section of the lab reports for point count results.

It has been a pleasure to be of service to you. Please feel free to call if there is anything further we can assist you with.

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code:102063

Enc.: Sample Results

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www.nvllabs.com

NVL Laboratories, Inc.
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p 206.547.0100 | f 206.634.1936

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC1 Residence 2

Batch #: 1820758.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 1

Samples Analyzed: 1

Method: EPA/600R-93/116

Lab ID : 18106246 Client Sample #: CC1R2-1-01 Layer 1**Sample Description:** Analyzing layer 1 of 1: White compacted powdery material with paint

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 0.8 % in Layer 1. Corresponding Lab ID 18101753

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	1	124	125
2	1	124	125
3	0	125	125
4	0	125	125
5	1	124	125
6	0	125	125
7	2	124	126
8	0	125	125
Total	5	996	1001

Conclusion: This Sample Contains 0.5 % ASBESTOS**Comments:** Client sample number CC1R2-1-01**Sampled by:** Client**Analyzed by:** William Minor**Reviewed by:** Matt Macfarlane**Date:** 10/25/2018**Date:** 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

Company AECOM-Seattle **NVL Batch Number** 1820758.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 5 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/26/2018 **Time** 10:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence 2

Subcategory PLM Bulk

Item Code ASB-04 EPA 600/R-93-116 Asbestos by PLM (1000 points) <bulk>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18106246	CC1R2-1-01 Layer 1		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Emailed by Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/19/18	1015
Analyzed by	William Minor		NVL	10/25/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Sample Originally from Batch 1819283

Instructions:

Date: 10/19/2018

Time: 10:49 AM

Entered By: Emily Schubert

Emily Schubert

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Friday, October 19, 2018 10:14 AM
To: Client Services
Subject: 60537920 1000 Point Count (more coming)

Please PLM point count, 1000 pts, 5 day TAT, the following samples and layers. Please analyze layers separately:

Batch
1819491
Sample #s
CC1PH-4-01 Layer 1
CC1PH-4-02 Layer 1
CC1PH-4-03 Layer 1

I submitted this as a 400 count, but I need it to be 1000 point counted.

Batch
1819283
Sample #
CC1R2-1-01 Layer 1

I submitted these as a 400 count, but I need them to be 1000 point counted.

Batch
1819284
Sample #s
CC2FS-6-01 Layer 1
CC2FS-6-01 Layer 2
CC2FS-6-02 Layer 1
CC2FS-6-02 Layer 2
CC2FS-6-03 Layer 1
CC2FS-6-03 Layer 2

Thanks,

Shannon MacKay
Sr. Environmental Scientist, Environmental Compliance
D 206-438-2232 C 206-999-2112
shannon.mackay@aecom.com

AECOM
1111 3rd Avenue, Suite 1600 Seattle, WA 98101
206-438-2700 Fax 866-438-2166
www.aecom.com

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819230.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

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1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: Emergency Spill Equipment Shed

Batch #: 1819230.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/1/2018
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098339	CC1ES-Pb1-01	0.1937	52	< 52	<0.0052


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819230.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** Emergency Spill Equipment Shed

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples _____

	Lab ID	Sample ID	Description	A/R
1	18098339	CC1ES-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 10/1/2018

Time: 12:35 PM

Entered By: Emily Schubert

1819230



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM

Address 1111 3rd Avenue, Suite 1600

Seattle, WA 98101

Phone 206-438-2700

Project Manager Nicole Gladu

Cell (206) 240-0644

Email nicole.gladu@aecom.com

Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location EMERGENCY SPILL EQUIPMENT SHED

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	CCIES-01 SM CCIES-P61-01		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/28/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilio S	<i>[Signature]</i>	NVL	10/01/18	9:15am
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819534.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Shalini Patel, Lab Supervisor

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1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
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p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC1 Gatehouses

Batch #: 1819534.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/2/2018
Samples Received: 2
Samples Analyzed: 2

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100032	CC1GH-Pb1-01	0.2030	49	150000	15
18100033	CC1GH-Pb2-01	0.2233	45	130000	13


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819534.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Gatehouses

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 2

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18100032	CC1GH-Pb1-01		A
2	18100033	CC1GH-Pb2-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 1:10 PM

Entered By: Emily Schubert

1819534



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI GATEHOUSES

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 2

Sample ID	Description	A/R
1	<u>CC1GH-Pb1-01</u>	
2	<u>CC1GH-Pb2-01</u>	
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Shannon MacKay/David Simon</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18-9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>10/2/2018</u>	<u>5pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S.M. Bull</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/18/18</u>	<u>1700</u>
Analyzed by					
Called by					
Faxed/Email by					

Shaina Mitchell

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Wednesday, October 03, 2018 3:15 PM
To: Client Services
Subject: RE: Sample ID Discrepancy

Yes, the sample id's on the bags are mislabeled. The sample id's on the COC are correct. C11-Pb1-01 should be CC1GH-Pb1-01 and C12-Pb2-01 should be CC1GH-Pb2-01

Shannon MacKay
Sr. Environmental Scientist, Environmental Compliance
D 206-438-2232 C 206-999-2112
shannon.mackay@aecom.com

AECOM
1111 3rd Avenue, Suite 1600 Seattle, WA 98101
206-438-2700 Fax 866-438-2166
www.aecom.com

From: Client Services [<mailto:ClientServices@nvlabs.com>]
Sent: Wednesday, October 03, 2018 3:13 PM
To: MacKay, Shannon
Cc: Client Services
Subject: Sample ID Discrepancy

Good afternoon,

We are emailing you because the two physical sample ID's within this batch do not match the sample ID's on the COC. The physical samples read "C11-Pb1-01" and C12-Pb2-01".

Can you confirm that the sample's were mislabeled and should match the ID's correlating with the COC? We have attached the COC for reference.

Your samples will be put on hold until we receive confirmation verifying these sample ID's. Please let us know if you have any other questions or concerns.

Thanks & Regards,

Client Services



www.nvlabs.com
ph: 206.547.0100 | fax: 206.634.1936
toll free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North, Seattle, WA 98103

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819535.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC1 Groundwater Pumphouse

Batch #: 1819535.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100034	CC1GWPH-Pb1-01	0.1821	55	3300	0.33


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819535.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Groundwater Pumphouse

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18100034	CC1GWPH-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 1:12 PM

Entered By: Emily Schubert

1819535



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI GROUNDWATER PUMPHOUSE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	<u>CCIGWPH-P61-01</u>		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Shannon MacKay/David Simon</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18-9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>10/2/2018</u>	<u>5pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S. Mitchell</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/2/18</u>	<u>1700</u>
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819533.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC1 Maintenance Building

Batch #: 1819533.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100031	CC1MB-Pb1-01	0.2043	49	93000	9.3


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/05/2018

Date Issued: 10/05/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819533.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Maintenance Building

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18100031	CC1MB-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 1:09 PM

Entered By: Emily Schubert

1819533



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4Project Location CC1 MAINTENANCE BUILDING

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1	CCIMB-Pb1-01	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>Shannon MacKay</i>	AECOM	9/10/18-9/11/18	8am-5pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18 10/2/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819539.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC1 Penstock

Batch #: 1819539.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/2/2018
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100040	CC1PS-Pb1-01	0.2178	46	31000	3.1

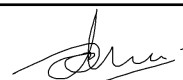
Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/05/2018

Date Issued: 10/05/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Bench Run No:

Company AECOM-Seattle **NVL Batch Number** **1819539.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Penstock

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples _____

	Lab ID	Sample ID	Description	A/R
1	18100040	CC1PS-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 10/3/2018

Time: 1:17 PM

Entered By: Emily Schubert

1819539



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM

Address 1111 3rd Avenue, Suite 1600

Seattle, WA 98101

Phone 206-438-2700

Project Manager Nicole Gladu

Cell (206) 240-0644

Email nicole.gladu@aecom.com

Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI PENSTOCK

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1 <u>CCIPS-Pb1-01</u>		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Shannon MacKay/David Simon</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18-9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>10/2/18</u>	<u>5pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S. Mitchell</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/2/18</u>	<u>1700</u>
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819540.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC1 Powerhouse

Batch #: 1819540.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/2/2018
Samples Received: 4
Samples Analyzed: 4

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100041	CC1PH-Pb1-01	0.2143	47	69000	6.9
18100042	CC1PH-Pb2-01	0.2115	47	140	0.014
18100043	CC1PH-Pb3-01	0.2213	45	95000	9.5
18100044	CC1PH-Pb4-01	0.1930	52	83000	8.3


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/05/2018

Date Issued: 10/05/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819540.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Powerhouse

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 4

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18100041	CC1PH-Pb1-01		A
2	18100042	CC1PH-Pb2-01		A
3	18100043	CC1PH-Pb3-01		A
4	18100044	CC1PH-Pb4-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 1:18 PM

Entered By: Emily Schubert

1819540



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI POWERHOUSE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 4

	Sample ID	Description	A/R
1	CC1PH-Pb1-01		
2	" - Pb2-01		
3	" - Pb3-01		
4	" - Pb4-01		
5	4/18 sm		
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	10/2/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>[Signature]</i>	NVL	10/2/18	1:00
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819443.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC1 Residence 1

Batch #: 1819443.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 5

Samples Analyzed: 5

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18099608	CC1R1-Pb1-01	0.1976	51	73000	7.3
18099609	CC1R1-Pb2-01	0.2164	46	630	0.063
18099610	CC1R1-Pb2-02	0.2019	50	1000	0.10
18099611	CC1R1-Pb3-01	0.1911	52	420	0.042
18099612	CC1R1-Pb4-01	0.2037	49	96000	9.6


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819443.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence 1

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 5

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099608	CC1R1-Pb1-01		A
2	18099609	CC1R1-Pb2-01		A
3	18099610	CC1R1-Pb2-02		A
4	18099611	CC1R1-Pb3-01		A
5	18099612	CC1R1-Pb4-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 9:37 AM

Entered By: Emily Schubert

1819443



METALS CHAIN OF CUSTODY

Turn Around Tin.

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI RESIDENCE 1

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 5

	Sample ID	Description	A/R
1	CCIRI-Pb1-01		
2	CCIRI-Pb2-01		
3	CCIRI-Pb2-02		
4	CCIRI-Pb3-01		
5	CCIRI-Pb4-01		
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	10/02/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S-Mitchell	<i>[Signature]</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819512.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC1 Residence Shed

Batch #: 1819512.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18099993	CC1RS-Pb1-01	0.2026	49	3000	0.30


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819512.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC1 Residence Shed

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099993	CC1RS-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 12:15 PM

Entered By: Emily Schubert

1819512



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM Project Manager Nicole Gladu
 Address 1111 3rd Avenue, Suite 1600 Cell (206) 240-0644
Seattle, WA 98101 Email nicole.gladu@aecom.com
 Phone 206-438-2700 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCI RESIDENCE SHED

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples

Sample ID	Description	A/R
1 <u>CCIRS SM PBI-01</u>		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/02/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	10/2/18	1700
Analyzed by					
Called by					
Faxed/Email by					



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

AECOM

Nicole Gladu
1111 3rd Avenue Suite 1600
Seattle, WA 98101

RE: COPCO 1 DAM

Work Order Number: 1812355

January 03, 2019

Attention Nicole Gladu:

Fremont Analytical, Inc. received 1 sample(s) on 12/21/2018 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8270 (GCMS)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

CC:
Shannon Mackay



Date: 01/03/2019

CLIENT: AECOM
Project: COPCO 1 DAM
Work Order: 1812355

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1812355-001	CC1GH-PCB1-01	12/19/2018 10:00 AM	12/21/2018 4:59 PM

CLIENT: AECOM
Project: COPCO 1 DAM

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1812355
Date Reported: 1/3/2019

Client: AECOM

Collection Date: 12/19/2018 10:00:00 AM

Project: COPCO 1 DAM

Lab ID: 1812355-001

Matrix: Product

Client Sample ID: CC1GH-PCB1-01

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Polychlorinated Biphenyls (PCB) by EPA 8270 (GCMS)

Batch ID: 23109

Analyst: SB

Aroclor 1016	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1221	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1232	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1242	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1248	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1254	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1260	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1262	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Aroclor 1268	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Total PCBs	ND	1.02		mg/Kg	1	1/3/2019 1:17:10 PM
Surr: Decachlorobiphenyl	86.6	20 - 191		%Rec	1	1/3/2019 1:17:10 PM
Surr: Tetrachloro-m-xylene	113	20 - 173		%Rec	1	1/3/2019 1:17:10 PM



Date: 1/3/2019

Work Order: 1812355
 CLIENT: AECOM
 Project: COPCO 1 DAM

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8270 (GCMS)

Sample ID	MB-23109	SampType:	MBLK	Units:	mg/Kg	Prep Date:	12/28/2018	RunNo:	48721		
Client ID:	MBLKS	Batch ID:	23109			Analysis Date:	1/3/2019	SeqNo:	955321		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	0.0441		0.05000		88.1	20	191				
Surr: Tetrachloro-m-xylene	0.0594		0.05000		119	20	173				

Sample ID	LCS1-23109	SampType:	LCS	Units:	mg/Kg	Prep Date:	12/28/2018	RunNo:	48721		
Client ID:	LCSS	Batch ID:	23109			Analysis Date:	1/3/2019	SeqNo:	955322		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.35	0.100	1.000	0	135	38.4	155				
Aroclor 1260	1.21	0.100	1.000	0	121	42.8	168				
Surr: Decachlorobiphenyl	0.0461		0.05000		92.1	20	191				
Surr: Tetrachloro-m-xylene	0.0634		0.05000		127	20	173				

Sample ID	LCS1D-23109	SampType:	LCSD	Units:	mg/Kg	Prep Date:	12/28/2018	RunNo:	48721		
Client ID:	LCSS02	Batch ID:	23109			Analysis Date:	1/3/2019	SeqNo:	955323		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.26	0.100	1.000	0	126	38.4	155	1.352	7.36	30	
Aroclor 1260	1.12	0.100	1.000	0	112	42.8	168	1.213	7.90	30	
Surr: Decachlorobiphenyl	0.0482		0.05000		96.3	20	191		0		
Surr: Tetrachloro-m-xylene	0.0640		0.05000		128	20	173		0		



Date: 1/3/2019

Work Order: 1812355
CLIENT: AECOM
Project: COPCO 1 DAM

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8270 (GCMS)

Sample ID	LCS1D-23109		SampType: LCSD		Units: mg/Kg		Prep Date: 12/28/2018		RunNo: 48721		
Client ID:	LCSS02		Batch ID: 23109		Analysis Date: 1/3/2019				SeqNo: 955323		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	LCS2-23109	SampType:	LCS	Units:	mg/Kg	Prep Date:	12/28/2018	RunNo:	48721		
Client ID:	LCSS	Batch ID:	23109			Analysis Date:	1/3/2019	SeqNo:	955324		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.09	0.100	1.000	0	109	40.9	164				
Surr: Decachlorobiphenyl	0.0424		0.05000		84.8	20	191				
Surr: Tetrachloro-m-xylene	0.0567		0.05000		113	20	173				

Client Name: **URS**

Work Order Number: **1812355**

Logged by: **Clare Griggs**

Date Received: **12/21/2018 4:59:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☐ No ☒ NA ☐

Bulk materials.

4. Shipping container/cooler in good condition? Yes ☒ No ☐
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Required ☒
6. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒
7. Were all items received at a temperature of >0°C to 10.0°C * Yes ☐ No ☐ NA ☒
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record & Laboratory Services Agreement

Date: 12/21/2018 Page: 1 of 1

Project Name: COPCO 1 DAM

Project No: 10537920 2.4

Collected by: S. Mackay / P. Simon

Location:

Report To (PM): Nicole Gladu / Shannon Mackay

PM Email: Shannon.mackay@accom.com

Laboratory Project No (internal): 18173555

Special Remarks:

Client: ACCOM

Address: 1111 3rd Ave Ste 1600

City, State, Zip: Seattle, WA 98101

Telephone: 206-999-2112

Fax:

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCS (EPA 8260 / 624)	GV/8TEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DY)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	ED6 (3011)	PCBB270	Comments
1. CC1GH-PEB1-01	12/19/18	10:00am	P															
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished *Shannon Mackay* Date/Time 12/21/18

Received *Shannon Mackay* Date/Time 12/21/18

Relinquished *Shannon Mackay* Date/Time 12/21/18

Received *Shannon Mackay* Date/Time 12/21/18

APPENDIX D PERSONNEL AND LABORATORY CERTIFICATIONS

State of California Department of Public Health

Lead-Related
Construction
Certificate

Certificate
Type

Expiration
Date



Project Monitor

01/06/2019



David L. Simon

ID # 24204

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

David Leo Simon

Name

Certification No. 92-0005

Expires on 06/24/19



This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Certificate Of Completion

Asbestos Building Inspector Refresher Course

DOSH #:CA-015-06

Shannon MacKay

ABIR0115190004N18965

David Wallach

Principal Instructor

1/15/2019

Course Start Date

1/15/2019

Course End Date

Michael W. Horner

Michael W. Horner

Training Director

1/15/2019

Exam Date

1/15/2020

Expiration Date

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

NATEC International, Inc.

National Association of Training and Environmental Consulting

1100 Technology Circle- Suite A, Anaheim, CA 92805 • www.natecintl.com • 800-969-3228



Important Industry Contacts

CAL-OSHA: Ph# (916) 574-2993
(916) 483-0572 Fax Notification
Web: www.dir.ca.gov or calosha.com

CDPH/CLPPB: Ph# (510) 620-5600
Web: www.cdph.ca.gov/programs/CLPPB

SCAQMD: Ph# (909) 396-3739
Fax# (909) 396-3342

BAAQMD: Ph# (415) 749-4762

NATEC International, Inc.

National Association of Training and Environmental Consulting

Anaheim, CA • Oakland, CA • Fresno, CA • Sacramento, CA

Asbestos • Lead • Mold • HAZWOPER

P.O. Box 25205 Anaheim, CA 92825-5205
(714) 678-2750, (800) 969-3228, Fax (714) 678-2757
www.natecintl.com

NATEC International, Inc.

National Association of Training and Environmental Consulting
*Note: Card is not suitable substitute for certificate and is not accepted by SCAQMD as proof of certification

This Card Acknowledges That
Shannon MacKay

Holds Training Certification For
Asbestos Building Inspector Refresher Course

Expiration: 01/15/2020

Training Date 1/15/2019
Certificate No. ABIR0115190004N18965

Michael W. Horner
Training Director

Certificate of Completion

This is to certify that
Shannon R. MacKay

has satisfactorily completed
4 hours of refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

167196
Certificate Number



Instructor



May 2, 2018
Date(s) of Training

Expires in 1 year.

Exam Score:
If appropriate:

ARGUS PACIFIC, INC / 1900 WEST NICKERSON ST, SUITE 315 / SEATTLE, WASHINGTON 98119 / 206.285.3373 / ARGUSPACIFIC.COM



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

NVL Laboratory

4708 Aurora Avenue North

Seattle, WA 98103

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2757**

Expiration Date: **9/30/2019**

Effective Date: **10/1/2018**

Sacramento, California
subject to forfeiture or revocation

A handwritten signature in black ink, reading "Christine Sotelo".

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



**CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing**



NVL Laboratories, Inc.
PLM Dept.
4708 Aurora Avenue North
Seattle, WA 98103
Phone: (206) 547-0100

Certificate No. 2757
Expiration Date 9/30/2019

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010	001	Bulk Asbestos	EPA 600/M4-82-020
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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.
Seattle, WA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2018-10-01 through 2019-09-30

Effective Dates



A handwritten signature in blue ink, reading "Dana S. Laman".

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: 101861

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE**
- ✓ **ENVIRONMENTAL LEAD**
- ✓ **ENVIRONMENTAL MICROBIOLOGY**
- ☐ **FOOD**
- ✓ **UNIQUE SCOPES**

Accreditation Expires: June 01, 2019

Accreditation Expires: June 01, 2019

Accreditation Expires: June 01, 2019

Accreditation Expires:

Accreditation Expires: June 01, 2019

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

William Walsh, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 15: 03/30/2016

Date Issued: 05/31/2017



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 04/01/1997

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte <i>(for internal methods only)</i>
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	EPA 3051	
			NIOSH 7300 Modified	
	X-ray Diffraction (XRD)		NIOSH 7500	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500 Modified	
			NIOSH 0600 Modified	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 02/07/1997

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (for internal methods only)
Paint		EPA SW-846 3051	
		EPA SW-846 7000B	
Soil		EPA SW-846 3051	
		EPA SW-846 7000B	
Settled Dust by Wipe		EPA SW-846 3051	
		EPA SW-846 7000B	
Airborne Dust		EPA SW-846 3051	
		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 02/01/1997

EMLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Direct Examination	SOP 12.133	In-House: Analysis of Spore Trap
	Bulk - Direct Examination	SOP 12.133	In-House: Bulk Analysis
	Surface - Direct Examination	SOP 12.133	In-House: Surface Analysis

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Unique Scopes Laboratory Accreditation Program (Unique Scopes)

Initial Accreditation Date: 04/01/2013

Unique Scope Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Consumer Product Testing	Lead in Paint and Other Similar Surface Coatings	CPSC-CH-E1003-09.1	
	Total Lead in Metal Children's Products	CPSC-CH-E1001-08.2	
	Total Lead in Non-Metal Children's Products	CPSC-CH-E1002-08.1	

A complete listing of currently accredited Unique Scope laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

EMSL Analytical Inc.

200 Route 130 North
Cinnaminson, NJ 08077

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1877**

Expiration Date: **3/31/2017**

Effective Date: **4/1/2015**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



EMSL Analytical Inc.

200 Route 130 North
Cinnaminson, NJ 08077
Phone: (800) 220-3675

Certificate No. 1877
Expiration Date 3/31/2017

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate	EPA 300.0
102.030	007	Nitrite	EPA 300.0
102.030	008	Phosphate, Ortho	EPA 300.0
102.030	009	Sulfate	EPA 300.0
102.100	001	Alkalinity	SM2320B
102.130	001	Conductivity	SM2510B
102.140	001	Total Dissolved Solids	SM2540C
102.175	001	Chlorine, Free and Total	SM4500-Cl G
102.190	001	Cyanide, Total	SM4500-CN E
102.192	001	Cyanide, amenable	SM4500-CN G
102.262	001	Total Organic Carbon TOC	SM5310C
102.270	001	Surfactants	SM5540C
102.520	001	Calcium	EPA 200.7
102.520	002	Magnesium	EPA 200.7
102.520	003	Potassium	EPA 200.7
102.520	004	Silica	EPA 200.7
102.520	005	Sodium	EPA 200.7
102.520	006	Hardness (calculation)	EPA 200.7

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.030	001	Mercury	SM3112B
103.060	001	Aluminum	SM3120B
103.060	003	Barium	SM3120B
103.060	007	Chromium	SM3120B
103.060	009	Iron	SM3120B
103.060	011	Manganese	SM3120B
103.060	015	Silver	SM3120B
103.060	017	Zinc	SM3120B
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.150	009	Lead	EPA 200.9
103.160	001	Mercury	EPA 245.1
103.300	001	Asbestos	EPA 100.1
103.301	001	Asbestos	EPA 100.2

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.040	000	Volatile Organic Compounds	EPA 524.2
104.040	001	Benzene	EPA 524.2
104.040	007	n-Butylbenzene	EPA 524.2
104.040	008	sec-Butylbenzene	EPA 524.2
104.040	009	tert-Butylbenzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	015	2-Chlorotoluene	EPA 524.2
104.040	016	4-Chlorotoluene	EPA 524.2
104.040	019	1,3-Dichlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	022	Dichlorodifluoromethane	EPA 524.2
104.040	023	1,1-Dichloroethane	EPA 524.2
104.040	024	1,2-Dichloroethane	EPA 524.2
104.040	025	1,1-Dichloroethene	EPA 524.2
104.040	026	cis-1,2-Dichloroethene	EPA 524.2
104.040	027	trans-1,2-Dichloroethene	EPA 524.2
104.040	028	Dichloromethane	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	033	cis-1,3-Dichloropropene	EPA 524.2
104.040	034	trans-1,3-Dichloropropene	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2
104.040	037	Isopropylbenzene	EPA 524.2
104.040	039	Naphthalene	EPA 524.2
104.040	041	N-propylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2
104.040	045	Tetrachloroethene	EPA 524.2

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

104.040	046	Toluene	EPA 524.2
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2
104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethene	EPA 524.2
104.040	052	Trichlorofluoromethane	EPA 524.2
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	057	Xylenes, Total	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2
104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane	EPA 524.2
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	006	tert-Butyl Alcohol (TBA)	EPA 524.2
104.050	008	Carbon Disulfide	EPA 524.2
104.050	009	Methyl Isobutyl Ketone	EPA 524.2

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	008	Cobalt	EPA 200.8

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.020	021	Iron	EPA 200.8
109.020	022	Tin	EPA 200.8
109.020	023	Titanium	EPA 200.8
109.025	010	Lead	EPA 200.9
109.190	001	Mercury	EPA 245.1
109.370	007	Gold	SM3111B
109.370	010	Lead	SM3111B
109.370	014	Palladium	SM3111B
109.370	015	Platinum	SM3111B
109.400	001	Mercury	SM3112B
109.430	001	Aluminum	SM3120B
109.430	002	Antimony	SM3120B
109.430	005	Beryllium	SM3120B
109.430	007	Cadmium	SM3120B
109.430	009	Chromium	SM3120B
109.430	010	Cobalt	SM3120B
109.430	011	Copper	SM3120B
109.430	012	Iron	SM3120B
109.430	013	Lead	SM3120B
109.430	015	Manganese	SM3120B
109.430	016	Molybdenum	SM3120B
109.430	017	Nickel	SM3120B
109.430	019	Selenium	SM3120B
109.430	021	Silver	SM3120B
109.430	024	Vanadium	SM3120B
109.430	025	Zinc	SM3120B
109.811	001	Chromium (VI)	SM3500-Cr D (18th/19th)

Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste

114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B

114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.103	001	Chromium (VI)	EPA 7196A
114.130	001	Lead	EPA 7420
114.131	001	Lead	EPA 7421
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A

Field of Testing: 115 - Extraction Test of Hazardous Waste

115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter 11, Article 5, Appendix II

Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste

116.010	000	EDB and DBCP	EPA 8011
116.020	030	Nonhalogenated Volatiles	EPA 8015B
116.020	031	Ethanol and Methanol	EPA 8015B
116.030	001	Gasoline-range Organics	EPA 8015B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.080	120	Oxygenates	EPA 8260B

Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
117.110	000	Extractable Organics	EPA 8270C
117.210	000	Pesticides & PCBs	EPA 8081A
117.220	000	PCBs	EPA 8082
117.250	000	Chlorinated Herbicides	EPA 8151A

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010	001	Bulk Asbestos	EPA 600/M4-82-020
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As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

Field of Testing: 129 - Cryptosporidium & Giardia

129.020	001	Cryptosporidium and Giardia	EPA 1623
129.030	001	Cryptosporidium and Giardia	EPA 1623.1



OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: WA100009

EPA CODE: WA01224

Certificate: WA100009 - 012



Fremont Analytical, Inc.

3600 Fremont Ave. N

Seattle, WA 98103

Issue Date: 5/10/2018 Expiration Date: 5/9/2019

As of 5/10/2018 this list supersedes all previous lists for this certificate number.

Solids

EPA 8270D

5562 Azobenzene
5595 Benzidine
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene
9309 Benzo(j)fluoranthene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5610 Benzoic acid
5630 Benzyl alcohol
5760 bis(2-Chloroethoxy)methane
5765 bis(2-Chloroethyl) ether
5780 bis(2-Chloroisopropyl) ether
6062 bis(2-Ethylhexyl)adipate
5670 Butyl benzyl phthalate
5680 Carbazole
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
9354 Dibenz(a, h) acridine
5900 Dibenz(a, j) acridine
5895 Dibenz(a,h) anthracene
9348 Dibenzo(a, h) pyrene
5890 Dibenzo(a,e) pyrene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6205 Diphenylamine
6265 Fluoranthene
6270 Fluorene
6275 Hexachlorobenzene
4835 Hexachlorobutadiene
6285 Hexachlorocyclopentadiene
4840 Hexachloroethane
6315 Indeno(1,2,3-cd) pyrene
6320 Isophorone
5005 Naphthalene
5015 Nitrobenzene
6525 n-Nitrosodiethylamine
6530 n-Nitrosodimethylamine
6545 n-Nitrosodi-n-propylamine
6535 n-Nitrosodiphenylamine



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Solids

EPA 8270D

6605 Pentachlorophenol
6608 Perylene
6615 Phenanthrene
6625 Phenol
6665 Pyrene
5095 Pyridine

EPA 8270D
SIM

10242509

Semivolatile Organic compounds by
GC/MS Selective Ion Monitoring

6380 1-Methylnaphthalene
6385 2-Methylnaphthalene
5500 Acenaphthene
5505 Acenaphthylene
5555 Anthracene
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5670 Butyl benzyl phthalate
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
5895 Dibenz(a,h) anthracene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6265 Fluoranthene
6270 Fluorene
6315 Indeno(1,2,3-cd) pyrene
5005 Naphthalene
6605 Pentachlorophenol
6615 Phenanthrene
6665 Pyrene

EPA 8270E

988

Semivolatile Organic compounds by
Gas Chromatography/Mass
Spectrometry (GC/MS)

5155 1,2,4-Trichlorobenzene

EPA 8270E

10242543

Semivolatile Organic compounds by
GC/MS

5155 1,2,4-Trichlorobenzene
4610 1,2-Dichlorobenzene
6155 1,2-Dinitrobenzene
4615 1,3-Dichlorobenzene



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Solids

EPA 8270E

6160 1,3-Dinitrobenzene (1,3-DNB)
4620 1,4-Dichlorobenzene
6165 1,4-Dinitrobenzene
6380 1-Methylnaphthalene
4659 2,2-Oxybis(1-chloropropane)
6735 2,3,4,6-Tetrachlorophenol
6740 2,3,5,6-Tetrachlorophenol
6835 2,4,5-Trichlorophenol
6840 2,4,6-Trichlorophenol
6000 2,4-Dichlorophenol
6130 2,4-Dimethylphenol
6175 2,4-Dinitrophenol
6185 2,4-Dinitrotoluene (2,4-DNT)
6190 2,6-Dinitrotoluene (2,6-DNT)
5795 2-Chloronaphthalene
5800 2-Chlorophenol
6360 2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
5145 2-Methylaniline (o-Toluidine)
6385 2-Methylnaphthalene
6400 2-Methylphenol (o-Cresol)
6460 2-Nitroaniline
6490 2-Nitrophenol
6412 3 & 4 Methylphenol
5945 3,3'-Dichlorobenzidine
6355 3-Methylcholanthrene
6465 3-Nitroaniline
5660 4-Bromophenyl phenyl ether (BDE-3)
5700 4-Chloro-3-methylphenol
5745 4-Chloroaniline
5825 4-Chlorophenyl phenylether
6470 4-Nitroaniline
6500 4-Nitrophenol
5500 Acenaphthene
5505 Acenaphthylene
5510 Acetophenone
5545 Aniline
5555 Anthracene
5562 Azobenzene
5570 Benzaldehyde
5595 Benzidine
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene



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Solids

EPA 8270E

9309 Benzo(j)fluoranthene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5610 Benzoic acid
5630 Benzyl alcohol
5635 Benzyl chloride
5760 bis(2-Chloroethoxy)methane
5765 bis(2-Chloroethyl) ether
5780 bis(2-Chloroisopropyl) ether
6062 bis(2-Ethylhexyl)adipate
5670 Butyl benzyl phthalate
5680 Carbazole
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
9354 Dibenz(a, h) acridine
5900 Dibenz(a, j) acridine
5895 Dibenz(a,h) anthracene
9348 Dibenzo(a, h) pyrene
9351 Dibenzo(a, i) pyrene
5890 Dibenzo(a,e) pyrene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6205 Diphenylamine
6265 Fluoranthene
6270 Fluorene
6275 Hexachlorobenzene
4835 Hexachlorobutadiene
6285 Hexachlorocyclopentadiene
4840 Hexachloroethane
6315 Indeno(1,2,3-cd) pyrene
5005 Naphthalene
5015 Nitrobenzene
6530 n-Nitrosodimethylamine
6545 n-Nitrosodi-n-propylamine
6535 n-Nitrosodiphenylamine
6605 Pentachlorophenol
6608 Perylene
6615 Phenanthrene
6625 Phenol
7985 Phorate



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Solids	EPA 8270E	6665	Pyrene	
		5095	Pyridine	
	EPA 8270E SIM			989 Semivolatile Organic compounds by Gas Chromatography/Mass Spectrometry (GC/MS) SIM Mode
		6380	1-Methylnaphthalene	
		5795	2-Chloronaphthalene	
		6385	2-Methylnaphthalene	
		5500	Acenaphthene	
		5505	Acenaphthylene	
		5555	Anthracene	
		5575	Benzo(a)anthracene	
		5580	Benzo(a)pyrene	
		5590	Benzo(g,h,i)perylene	
		5600	Benzo(k)fluoranthene	
		5585	Benzo[b]fluoranthene	
		5670	Butyl benzyl phthalate	
		5680	Carbazole	
		5855	Chrysene	
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	
		5895	Dibenz(a,h) anthracene	
		5905	Dibenzofuran	
		6070	Diethyl phthalate	
		6135	Dimethyl phthalate	
		5925	Di-n-butyl phthalate	
		6200	Di-n-octyl phthalate	
		6265	Fluoranthene	
		6270	Fluorene	
		6315	Indeno(1,2,3-cd) pyrene	
		5005	Naphthalene	
		6605	Pentachlorophenol	
		6615	Phenanthrene	
		6665	Pyrene	
NWTPH-Dx			90018409	Oregon DEQ TPH Diesel Range
		9369	Diesel range organics (DRO)	
		9499	Motor Oil	
		2050	Total Petroleum Hydrocarbons (TPH)	
NWTPH-Gx			90018603	Oregon DEQ TPH Gasoline Range Organics by GC/FID-PID Purge & Trap
		9408	Gasoline range organics (GRO)	

Appendix C

Copco No. 2 Development - Hazardous Materials Survey Report



**ENTEK
CONSULTING GROUP, INC.**

4200 Rocklin Road, Suite 7, Rocklin, CA 95677 Phone (916) 632-6800 Fax (916) 632-6812 www.entekgroup.com

**HAZARDOUS MATERIALS SURVEY
FINAL REPORT**

CLIENT

**NV5
48 Bellarmine Court, Ste. 40
Chico, CA 95928**

CONTACT

**Heidi Cummings, PG, QSD
Senior Geologist**

SURVEY ADDRESS

COPCO2 Development

BUILDINGS SURVEYED

**Multiple Structures at COPCO2 Development
Klamath River Renewal Project**

PREPARED BY

**Andy Roed
CAC #16-5695 & CDPH I/A 2989
Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677**

Entek Project #20-5562

October 30, 2020

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Appendices

- A. Asbestos Related Documents
- B. Lead Related Documents
- C. Sample Location Maps
- D. Backup Documentation
- E. Historical Documents

Executive Summary

Entek Consulting Group, Inc. (Entek) was contracted to conduct a supplementary investigation for hazardous materials specific to areas at the COPCO 1 Development as designated by NV5 and Kiewit Infrastructure West Co. (Kiewit) as part of the Klamath River Renewal Project. Based on documentation provided to Entek, AECOM Technical Services, Inc. (AECOM) conducted a hazardous materials survey in April of 2019. Entek utilized AECOM's survey and the sample results to minimize the number of samples and time required to complete the survey. This report combines AECOM's final report as well as Entek's supplemental sampling into one report. AECOM's report is also attached to this report for your records. The investigation included an assessment of the following:

- Asbestos Materials
- Lead in Paint, Coatings, Ceramic Products and other Construction Components
- Fluorescent Light Tubes
- Light Ballasts
- Polychlorinated Biphenyls (PCB)
- Mercury Containing Thermostats and Switches
- Smoke Detectors with Radioactive Americium 241
- Exit Signs with Radioactive Gas Tritium
- Freon

Entek did not specifically inspect for mercury containing fluorescent light tubes or light ballast which may contain polychlorinated biphenyls (PCBs), thermostats which may contain mercury switches, equipment or systems which may contain Freon or other fluorocarbons, or smoke detectors which may contain a radioactive element. However, information pertaining to these materials is included in this report for your use and reference, since these light systems are present on the project.

The purpose of the inspection was to comply with the US EPA NESHAP requirements and the California Air Resource Board which has jurisdiction for this project site to determine if asbestos containing materials are present which may be impacted during an upcoming demolition project.

The United States Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (US EPA NESHAP), 40 CFR Part 61 - Nov. 20, 1990, requires an owner or operator of a demolition or renovation project to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos-containing materials (ACM) prior to the commencement of that project.

This inspection was requested by Ms. Heidi Cummings, Senior Geologist with NV5. The attached drawings show approximate sample locations. Materials are classified in the tables of this report as Regulated Asbestos Containing Material (RACM), Category I (CAT-I) or Category II (CAT-II) ACM, or Asbestos Containing Construction Material (ACCM). The report must be read in its entirety prior to making any interpretations, or conclusions pertaining to the information. Any conclusions made by the reader about the information provided in the body of this report which are contradictory or not included in

this report are the responsibility of the reader.

Introduction

This report presents results of a supplemental asbestos and lead survey performed by Entek which included the interior and exterior of select structures as outlined in the building descriptions below. These buildings are located at the COPCO2 Development. Fluorescent lights were observed at this project site; therefore, this report also includes references to regulations pertaining to handling practices and waste disposal of PCB light ballasts and mercury containing light tubes and thermostats which may be impacted during this project.

The inspection was conducted by Mr. Andy Roed and Mr. Richard Perrelli on September 15 and 16, 2020. Mr. Roed and Mr. Perrelli are Cal/OSHA Certified Asbestos Consultants (CAC) and State of California Department of Public Health (CDPH) certified Lead Inspector/Assessors.

This report was prepared for Ms. Heidi Cummings, Senior Geologist with NV5.

Building Description

The following structures were not accessible by Entek and/or AECOM during either survey. The company in parenthesis was unable to access the structure due to safety or instructed to not enter structure by the building owner.

- Switchyard (Entek/AECOM)
- Controls Building (Inside Switchyard) (Entek/AECOM)
- Power Distribution Center Building (Inside Switchyard) (Entek/AECOM)
- Residence 1 (Entek/AECOM)
- Residence 2 (Entek/AECOM)
- Residence 6 (Entek)
- Residence 7 (Entek/AECOM)
- Residence 8 (Entek/AECOM)

Above Ground Storage Tanks (CC2AST)

A 500 gallon diesel AST and a 1,000 gallon gasoline AST and associated dispenser pumps are located adjacent to the Hazardous Material Storage Building. Both tanks are double walled ASTs and located on concrete pads.

Control Center Building (CC2CCB)

The Control Center Building is an approximately 2,000 square foot office building that is located approximately 50 feet south of the Powerhouse and is the main control center for Copco No. 1 and Copco No. 2 Facilities. The exterior of the building consists of metal siding and roofing. The interior of the building consists of a control room, a restroom, a small break room, and a storage closet. One room was inaccessible during the inspection. The interior finishes consist of carpeting, vinyl and ceramic flooring, and metal walls and ceilings.

Controls Building (CC2CB)

This Controls Building is an approximately 600 square feet wood building with concrete flooring that is located within the fenced switchyard. The switchyard was not accessed during the HBMS for safety reasons.

Copco 2 Diversion Dam and Headgate (CC2DD)

The Copco 2 Diversion Dam and Headgate is located downstream of the Copco 1 Powerhouse. The dam stretches across the river with a catwalk at the top nad with metal handrails. The headgate is on the far side of the dam from the Powerhouse and is constructed of concrete.

Electrical Transformers (CC2ET)

Two electrical transformers are located north of the maintenance building, located on cement pads with no signs of leakage.

Emergency Spill Equipment Shed (CC2ES)

The Emergency Spill Equipment Shed located adjacent to the Powerhouse and is approximately 100 square feet. The shed is a single-story structure with slab on grade concrete foundation, engineered wood siding, and asphaltic shingle roofing. The interior of the shed is unfinished wood. The structure is currently being used as storage for emergency spill purposes.

Former Bunkhouse (CC2FBH)

The Former Bunkhouse is located in the East Village and has not been occupied for several years. This single-story wooden framed structure is approximately 3,200 square feet with a slab on grade concrete foundation and contains two lodging wings with twelve bunk rooms, a shower/bathroom, and a central front room with a small kitchen area. The interior finishes consist of carpeting, vinyl flooring, wood walls and tongue-and-groove tiled ceilings.

Former Cookhouse (CC2FCH)

The Former Cookhouse is located in the East Village and is currently being used for miscellaneous storage. This two-story wooden framed structure is approximately 1,200 square feet and has a crawlspace foundation supported with cinder blocks. The exterior of the building consists of metal siding and roofing. The building's first floor contains a front room, an office, a bathroom, and a former kitchen and pantry area. The second floor contains an unfinished attic space. Interior finishes include vinyl flooring, and wood flooring, walls, and ceiling.

Former School (CC2FS)

The Former School is approximately 1,950 square feet, is located in the West Village, and is currently being used as a meeting center. This wooden framed structure has a slab on grade concrete foundation and was constructed in 1965. The building contains a large meeting room, storage closets, kitchen and bathrooms. The exterior consists of wood siding and metal roofing. Interior finishes consist of carpeting, vinyl flooring, carpeted walls, gypsum wallboard, and tongue-and-groove ceiling tiles.

Fuel Shed (CC2FSH)

The Fuel Shed is a metal container box that is approximately 72 square feet and is located adjacent to the Maintenance Storage Building. The container is currently used for fuel storage. The bottom of the shed is grated to allow the accumulation of spills into a lower interior containment system.

Groundwater Well (CC2GW)

The Groundwater Well is approximately 50 square feet and is located near the front entrance of the Copco No. 2 gated entrance along Dagget Road in a fenced enclosure. The building exterior consists of metal siding and roofing. The interior of the building is unfinished.

Hazardous Waste Storage (CC2HWS)

The Hazardous Waste Storage building is approximately 1,000 square feet and is a wooden structure with slab on grade concrete flooring that is located near the center of East Village. The exterior of the building consists of engineered wood siding and asphaltic shingle roofing. The interior of the building is unfinished concrete and wood.

Maintenance Building (CC2MB)

The Maintenance Building is approximately 5,000 square feet and is located southwest of the Powerhouse. Five metal roll-up doors are located on the southeast side of the building. The exterior of the building consists of metal siding and roofing. The interior of the building contains large warehouse/shop areas and a small office area with a breakroom and bathroom. The interior finishes include gypsum walls, unfinished walls with fiberglass insulation, vinyl floor tiles, and unfinished concrete. Two electrical transformers were located north of the Maintenance Building and both appeared to be in good condition. Both transformers are located on cement pads with no signs of leakage.

Maintenance Storage Building (CC2MSB)

The Maintenance Storage Building is approximately 900 square feet and is a wooden slab on grade structure that is located in the East Village. It is currently being used for storage. The exterior of the building consists of engineered wood siding and asphaltic shingle roofing. The interior of the building is unfinished concrete and wood.

Penstocks (CC2PS)

The Penstocks are located east of the Powerhouse and are approximately 10 feet to 14 feet in diameter. They extend up the hill on the west end of the Powerhouse.

Power Distribution Center Building (CC2PDCB)

The Power Distribution Center Building is a pre-fabricated building with wooden flooring that is approximately 1,000 square feet and is located within the fenced switchyard. The interior of the building was not accessed during the HBMS due to safety concerns. Equipment reported to be located in the building includes generator breakers, relay packages, transformer breakers, and bus tie breakers.

Powerhouse (CC2PH)

The Copco No. 2 Powerhouse is a three-story structure that is approximately 5,500 square feet and is located 1.5 miles downstream of Copco No. 2 Dam on the south bank of the river. The Powerhouse has a main ground level floor, a smaller upper second level and a

lower basement level. The main ground floor level contains the upper portions of two vertical-shaft turbines, an electrical room, and shop and storage rooms. The lower level contains the lower portions of the two turbines, intake penstocks for the two turbines, and miscellaneous piping and electrical conduits. The small upper second level is a loft type area with an office space. The exterior consists of concrete siding. The roof was inaccessible during the HBMS. Interior finishes consist of painted concrete throughout.

Residence 1 (CC2R1)

Residence 1 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed. Neither AECOM nor Entek was able to access the structure per the request of the building owner.

Residence 2 (CC2R2)

Residence 2 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed. Neither AECOM nor Entek was able to access the structure per the request of the building owner.

Residence 3 (CC2R3)

Residence 3 is a former residence that is located in the East Village and is approximately 1,120 square feet and garage building consists of wood siding and asphaltic shingle roofing. The interior of the residence contains a front living room, a bathroom, bedrooms, a kitchen, and a mud room. Interior finishes consist of tack down carpeting, vinyl floor sheeting, and gypsum wallboard and ceilings. A detached garage with wood siding and asphaltic shingle roofing is located to the rear of the residence.

Residence 4 (CC2R4)

Residence 4 is a former residence that is located in the East Village and is approximately 2,000 square feet. It is currently not occupied and is used temporarily for storage. The exterior consists of wood siding and cementitious shingle roofing. The interior contains a front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consist of tack-down carpeting, wood plank floor, vinyl floor sheeting, and gypsum wallboard and ceilings.

Residence 5 (CC2R5)

Residence 5 is a former residence that is located in the East Village and is approximately 2,000 square feet. It is currently not occupied and is used temporarily for storage and exercise equipment. The exterior consists of wood siding and cementitious shingle roofing. The interior contains a front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consist of tack-down carpeting, wood plank floor, vinyl floor sheeting, and gypsum wallboard and ceilings.

Residence 6 (CC2R6)

Residence 6 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. The building was unoccupied during the inspection, but is reportedly used for temporary housing. The interior contains a

front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consist of gypsum wallboard and ceilings, vinyl floor sheeting, and carpeting. The structure was assessed for asbestos but not for lead paint. Entek was not able to access the structure per the request of the building owner.

Residence 7 (CC2R7)

Residence 7 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed. Neither AECOM nor Entek was able to access the structure per the request of the building owner.

Residence 8 (Residence 8)

Residence 8 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed. Neither AECOM nor Entek was able to access the structure per the request of the building owner.

Right Abutment Retaining Wall and Earth Embankment (CC2RARW)

The right abutment retaining wall and earth embankment are located on the north end of the Copco 2 Dam.

Transformers (CC2TR)

The Station Service Power Gang Operated Switch is located on a small bluff about 100 feet north of the Powerhouse.

Wood Stave Penstock (CC2WSP)

The 1,313 feet long and 16 foot diameter Wood-Stave Penstock is composed of narrow beveled wood staves banded with steel hoops. The penstock is further supported by wooden laths on either side. The penstock did not appear to be painted.

Asbestos Inspection and Sample Collection Protocols

Entek included all specific designated interior and exterior areas of the buildings included in this report. Entek did not use any demolition methods to look within enclosed wall or ceiling cavities during this investigation. Entek did include all suspect materials observed in, on, or associated with the areas included in this report.

Entek reviewed the report prepared by AECOM prior to and during the site inspection. Materials sampled by AECOM were not resampled as part of this assessment. Only new material or materials which were assumed to contain asbestos by AECOM were sampled where possible.

Bulk samples were collected of various materials suspected to contain asbestos by utilizing a power drill and coring tube, cutting the materials with a razor knife, or use of other appropriate hand tools.

Surfacing materials were collected in a statistically random manner representative of the associated homogenous area as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987 and the California Air Resource Board (CARB).

Miscellaneous materials were collected from each homogenous area in a manner sufficient to determine whether the material is or is not ACM as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987.

Approximate locations of all samples collected during this inspection are indicated on the "Bulk Asbestos Material Analysis Request Form for Entek", which served as the chain of custody for the samples, and on the building diagram(s) attached to this report.

Asbestos Bulk Sample Results

There were several materials observed which are considered "suspect" under US EPA guidelines. Under current US EPA guidelines for conducting building inspections for ACM, all "suspect" materials must be assumed to contain asbestos until otherwise determined by laboratory testing.

The samples of materials suspected of containing asbestos were submitted to Asbestech, a laboratory located in Carmichael, California. These samples were subsequently analyzed by polarized light microscopy (PLM) with dispersion staining.

The US EPA NESHAP uses the terms Regulated Asbestos Containing Material (RACM), Category I, and Category II when identifying materials which contain asbestos in amounts greater than 1%. Cal/OSHA uses the term ACCM which indicates a manufactured construction material contains greater than 0.1% asbestos by weight by the PLM method. This definition can be found in Title 8, 1529.

All samples found to contain <1% asbestos by PLM analysis which are not identified as containing >1% asbestos, classified as RACM, CAT-I, or CAT-II materials in the following results tables were additionally analyzed using the 400 point count (PC) method with analysis by PLM. This additional analysis is required by NESHAP and enforced by SMAQMD. The PC method analysis results were used only to verify a material did not contain >1% asbestos as a single layer material, or as a composite result which is provided for materials such as sheet rock/drywall and joint compound used for wall/ceiling systems. A result reported as none detected or "trace" by the PC method only verified the initial PLM result of <1% and shall not be used to determine the identified material does not contain asbestos. Copies of Asbestech's laboratory reports and accreditations are attached.

Neither OSHA or Cal/OSHA allow for composite sampling of wall system materials, and neither address the use of the PC method to confirm a material identified as containing <1% asbestos by the PLM method either contains <1% asbestos or is non-detected for asbestos. As a result, reporting of the asbestos content related to a composited material such as sheet rock/drywall and joint compound does not apply to determining if a material is or is not an ACM by OSHA or an ACCM by Cal/OSHA.

Copies of Asbestech's laboratory reports and accreditations are attached.

Bulk samples were collected of all the materials considered to be "suspect", which had not been previously sampled, and were observed during this investigation. Some of those samples contained multiple layers which were individually analyzed to determine their asbestos content. Analysis of all samples collected was by PLM with dispersion staining. Results of the analysis for materials found to contain asbestos by both AECOM and Entek compiled in the table on the following pages

For all materials tested and found not to contain asbestos by Entek, refer to all laboratory results that are attached. In addition, the report by AECOM provides a list of materials with laboratory results of materials they collected, which include materials found to be positive and negative for asbestos.

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Former Bunkhouse					
CC2FBH-02	9"x9" off-white Vinyl Floor Tile with Gray and Tan Streak Pattern and Black Mastic	Flooring Throughout under Carpet	Cat. II	4% Chrysotile (Tan VFT) 3% Chrysotile (Black Mastic)	1,700 Square Feet
N/A	Silver Woven Fiberglass Electrical Wire Insulation	Throughout Attic	Cat. II	Assumed To Contain Asbestos	Not Quantified
CC2FBH-13	Gray Cementations Siding Debris	Scattered Throughout Landscaping Rock Cover (Likely Debris from a Siding Removal Project)	Cat. II	23-25% Chrysotile	Not Quantified
Former School					
CC2FS-02	Gray Sink Undercoating	Kitchen Sink	Cat. II	10-12% Chrysotile	1 Sink
CC2FS-06	Joint Compound Associated with Gypsum Wallboard	Interior Walls Throughout	Cat. II	<0.1% Chrysotile Confirmed by 1,000 Point Count	5,050 Square Feet
N/A	Felt Paper under Metal Roofing	Under Roof Throughout (Not Accessible without Damaging Roof)	Cat. II	Assumed To Contain Asbestos	2,000 Square Feet
N/A	Mastic Behind Plastic Wall Panels	Restroom Walls Throughout	Cat. II	Assumed To Contain Asbestos	200 Square Feet
N/A	Mirror Mastic	Behind Mirrors in Restrooms	Cat. II	Assumed To Contain Asbestos	2 Each

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Wood Clad Fire Door Insulation	Entrance Door to Building	Cat. II	Assumed To Contain Asbestos	1 Door
N/A	Wood Clad Fire Door Insulation	Janitors Door Closets	Cat. II	Assumed To Contain Asbestos	2 Door
CC2FS-05A-C	Cementitious Siding Panels	Exterior Siding Throughout	Cat, II	5-10% Chrysotile	2,000 Square Feet
Maintenance Building					
N/A	Metal Clad Fire Door Insulation	Doors Throughout	Cat. II	Assumed To Contain Asbestos	3 Doors
Powerhouse					
N/A	Wicket Gate	Associated with turbines on main level of powerhouse, not accessible without removal of turbines	Cat. I	Assumed To Contain Asbestos	2 Each
N/A	Metal Clad Fire Door Insulation	Doors Throughout	Cat. II	Assumed To Contain Asbestos	7 Doors
Residence 1 (Structure Not Accessible – All Materials and Quantities are an Estimate as Requested by Building Owner)					
N/A	Roofing Felt	Under Metal Roofing (Not Accessible by AECOM, Entek not allowed to Structure)	Cat. II	Assumed To Contain Asbestos	1,200 Square Feet
N/A	Vapor Barrier	Under Wood Siding	Cat. II	Assumed To Contain Asbestos	1,800 Square Feet
N/A	White Spray Applied Acoustical Ceiling Texture	Ceiling Throughout All Rooms	RACM	Assumed To Contain Asbestos	1,400 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Drywall and Joint Compound	Walls and Ceiling Throughout	Cat. II	Assumed To Contain Asbestos	4,360 Square Feet
N/A	White Spray Applied Acoustical Wall Texture	Walls Throughout All Rooms	RACM	Assumed To Contain Asbestos	3,600 Square Feet
N/A	Cement Asbestos Board Fire Place Panel	Fire Place in Living Room	Cat. II	Assumed To Contain Asbestos	8 Square Feet
N/A	Vinyl Sheet Flooring	Throughout	Cat. I	Assumed To Contain Asbestos	1,800 Square Feet
N/A	Black Mastic	Behind Wood Wall Panels	Cat. II	Assumed To Contain Asbestos	1,000 Square Feet
Residence 2 (Structure Not Accessible – All Materials and Quantities are an Estimate as Requested by Building Owner)					
N/A	Roofing Felt	Under Metal Roofing (Not Accessible by AECOM, Entek not allowed to Structure)	Cat. II	Assumed To Contain Asbestos	1,200 Square Feet
N/A	Vapor Barrier	Under Wood Siding	Cat. II	Assumed To Contain Asbestos	1,800 Square Feet
N/A	White Spray Applied Acoustical Ceiling Texture	Ceiling Throughout All Rooms	RACM	Assumed To Contain Asbestos	1,400 Square Feet
N/A	Drywall and Joint Compound	Walls and Ceiling Throughout	Cat. II	Assumed To Contain Asbestos	4,360 Square Feet
N/A	White Spray Applied Acoustical Wall Texture	Walls Throughout All Rooms	RACM	Assumed To Contain Asbestos	3,600 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Cement Asbestos Board Fire Place Panel	Fire Place in Living Room	Cat. II	Assumed To Contain Asbestos	8 Square Feet
N/A	Vinyl Sheet Flooring	Throughout	Cat. I	Assumed To Contain Asbestos	1,800 Square Feet
N/A	Black Mastic	Behind Wood Wall Panels	Cat. II	Assumed To Contain Asbestos	1,000 Square Feet
Residence 3					
CC2R3-01	Off-white Vinyl Floor Sheeting with Gray Mosaic Pattern with Paper Backing and Mastic	Flooring in Mud Room, Pantry, Bathroom, and Kitchen	Cat. I	None Detected (Vinyl Sheet Flooring) 48-49% Chrysotile Paper Backing and Mastic	260 Square Feet
CC2R3-06	Black/Brown Mastic	Behind Wood Wall Paneling in Dining Room and Living Room	Cat. II	3-4% Chrysotile	350 Square Feet
N/A	Gray Chimney Grout	Walled in Chimney (Not Accessible without destructive measures)	Cat. II	Assumed To Contain Asbestos	1 Chimney
N/A	Electrical Panel Backing	Interior of Shed	Cat. II	Assumed To Contain Asbestos	3 Each
CC2R3-01A-C	Ceiling Texture	Ceiling of Living Room	ACCM	<1% Chrysotile Confined by 400 Point Count	250 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Residence 4					
CC2R4-02	White Spray Applied Acoustical Ceiling Texture	Ceiling Throughout All Rooms	RACM	4-8% Chrysotile	1,400 Square Feet
CC2R4-03	Drywall and Joint Compound	Walls and Ceiling Throughout	Cat. II	None Detected (Drywall) 2% Chrysotile (Joint Compound)	4,360 Square Feet
CC2R4-05	White Spray Applied Acoustical Wall Texture	Walls Throughout All Rooms	RACM	2-3% Chrysotile	3,600 Square Feet
CC2R4-08	Cement Asbestos Board Fire Place Panel	Fire Place in Living Room	Cat. II	27-29% Chrysotile	8 Square Feet
CC2R4-10	Cement Asbestos Board Roof Shingles	Roof Throughout	Cat. II	23-27% Chrysotile	2,250 Square Feet
CC2R4-01A	Black Mastic	Behind Wood Wall Panels	Cat. II	1-5% Chrysotile	1,000 Square Feet
Residence 5					
CC2R5-01	Cement Roof Shingles	Throughout Roof of House	Cat. II	27-28% Chrysotile	2,550 Square Feet
CC2R5-04	Spray Applied Acoustical Ceiling Texture	Ceiling Throughout	RACM	4-7% Chrysotile	1,400 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
CC2R5-05	Drywall and Joint Compound	Walls and Ceiling Throughout		None Detected (Drywall) 2-3% Chrysotile (Joint Compound)	5,000 Square Feet
CC2R5-10	Drywall Mud (Thick)	Door Jamb Between Living Room and Hallway	Cat. II	2-3% Chrysotile	6 Square Feet
CC2R5-13	Spray Applied Wall Texture	Walls Throughout all Rooms	RACM	2-3% Chrysotile	3,600 Square Feet
CC2R5-01A	Black Mastic	Behind Wood Wall Panels	Cat. II	1-5% Chrysotile	1,000 Square Feet
CC2R5-01	Gray Pebble Vinyl Sheet Flooring with Gray Mastic	Restroom Closet (May be present under other Flooring Systems not observed)	Cat. II	15-20% Chrysotile (Sheet Flooring) None Detected (Mastic)	25 Square Feet
Residence 6					
CC2R6-04	Drywall and Joint Compound	Walls Throughout	Cat. II	None Detected (Drywall) 2-3% Chrysotile (Joint Compound)	3,400 Square Feet
CC2R6-05	Spray Applied Wall Texture	Walls Throughout	RACM	2% Chrysotile	3,400 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Roofing Felt	Under Metal Roofing (Not Accessible by AECOM, Entek not allowed to Structure)	Cat. II	Assumed To Contain Asbestos	1,200 Square Feet
N/A	Vapor Barrier	Under Wood Siding	Cat. II	Assumed To Contain Asbestos	1,800 Square Feet
Residence 7 (Structure Not Accessible – All Materials and Quantities are an Estimate as Requested by Building Owner)					
N/A	Roofing Felt	Under Metal Roofing (Not Accessible by AECOM, Entek not allowed to Structure)	Cat. II	Assumed To Contain Asbestos	1,200 Square Feet
N/A	Vapor Barrier	Under Wood Siding	Cat. II	Assumed To Contain Asbestos	1,800 Square Feet
N/A	White Spray Applied Acoustical Ceiling Texture	Ceiling Throughout All Rooms	RACM	Assumed To Contain Asbestos	1,400 Square Feet
N/A	Drywall and Joint Compound	Walls and Ceiling Throughout	Cat. II	Assumed To Contain Asbestos	4,360 Square Feet
N/A	White Spray Applied Acoustical Wall Texture	Walls Throughout All Rooms	RACM	Assumed To Contain Asbestos	3,600 Square Feet
N/A	Cement Asbestos Board Fire Place Panel	Fire Place in Living Room	Cat. II	Assumed To Contain Asbestos	8 Square Feet
N/A	Vinyl Sheet Flooring	Throughout	Cat. I	Assumed To Contain Asbestos	1,800 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Residence 8 (Structure Not Accessible – All Materials and Quantities are an Estimate as Requested by Building Owner)					
N/A	Roofing Felt	Under Metal Roofing (Not Accessible by AECOM, Entek not allowed to Structure)	Cat. II	Assumed To Contain Asbestos	1,200 Square Feet
N/A	Vapor Barrier	Under Wood Siding	Cat. II	Assumed To Contain Asbestos	1,800 Square Feet
N/A	White Spray Applied Acoustical Ceiling Texture	Ceiling Throughout All Rooms	RACM	Assumed To Contain Asbestos	1,400 Square Feet
N/A	Drywall and Joint Compound	Walls and Ceiling Throughout	Cat. II	Assumed To Contain Asbestos	4,360 Square Feet
N/A	White Spray Applied Acoustical Wall Texture	Walls Throughout All Rooms	RACM	Assumed To Contain Asbestos	3,600 Square Feet
N/A	Cement Asbestos Board Fire Place Panel	Fire Place in Living Room	Cat. II	Assumed To Contain Asbestos	8 Square Feet
N/A	Vinyl Sheet Flooring	Throughout	Cat. I	Assumed To Contain Asbestos	1,800 Square Feet
N/A					
N/A	Red Gaskets	Throughout Wood Stave Penstock	Cat. I	Assumed To Contain Asbestos	20 Each
COPCO2 Development					

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
N/A	Transite Piping	Assumed to be present underground throughout the COPCO2 Development	Cat. II	Assumed To Contain Asbestos	Unable to Quantify

NOTE: Any CAT-I or CAT-II materials identified in the previous tables which will be subjected to mechanical removal, must be considered RACM for the purposes of notification to US EPA Region IX, CARB, or Local AQMD and classification of waste. Removal of any CAT-I or CAT-II materials prior to demolition of a building is dependent upon how the materials will be impacted and if the impact will cause the materials to become friable. If any remaining CAT-I or CAT-II materials will become friable they must be removed prior to the initiation of demolition.

NOTE: Cal/OSHA regulates all materials containing greater than 0.1% asbestos. As a result, impact to materials identified as ACCM and ACM must be performed by properly asbestos trained personnel utilizing appropriate personal protection, work practices, as well as, properly constructed and demarcated work areas or containments, in accordance with Cal/OSHA asbestos regulations.

The tables above provide an estimate of the amount of materials in square feet or linear feet. Contractors are responsible for quantifying the exact quantity of materials impacted by the renovation or demolition and shall not rely on the quantities in the above tables.

US EPA AHERA uses three terms when determining the classification of a material for the purpose of sampling. These terms include miscellaneous, surfacing, and thermal system insulation (TSI).

Miscellaneous materials are building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, and do not include surfacing material or TSI.

Surfacing materials are materials that are sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceiling and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

TSI is material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain, water condensation, or for other purposes.

The information provided in the tables of this report are for use by the Owner in determining where asbestos containing materials are located, and whether or not any future work may impact those materials. The information is also provided for use by any contractor who may perform work in areas impacting the materials listed in this report, and for use as appropriate by asbestos abatement contractors to provide costs related to work impacting ACM.

Any building materials which are considered “suspect” for containing asbestos which have not been identified in this report must be assumed to contain asbestos in amounts >1% until properly investigated and/or tested.

Materials commonly excluded from being suspected for containing asbestos include, but are not limited to: unwrapped pink and yellow fiberglass insulating materials or products, foam insulation, wood, metal, plastic, or glass. All other types of building materials or coatings on the materials listed above are commonly listed as “suspect” and must be tested prior to impact by a Contractor. Work impacting these untested or newly discovered materials must cease until an investigation can be completed.

Asbestos Regulatory Requirements

US EPA

The property included in this survey report is located in Siskiyou County. The California Air Resource Board (CARB) has been given authority for enforcement of the NESHAP regulations.

A demolition is the wrecking, taking out, or burning of any load supporting structural member. A renovation is everything else. 10 day written notification to the US EPA Region IX, CARB or local AQMD is required prior to the performance of any demolition project regardless of asbestos being present or not. This notification would also apply to any renovation project which involves the wrecking, taking out, or burning of any load bearing

structural member during a renovation as well.

There is a sufficient amount of ACM present to require a 10 day notification to the US EPA Region IX, CARB or local AQMD be submitted prior to starting work which will impact materials identified as RACM or CAT-I and CAT-II materials if they are made friable. If more than 160 square feet, 260 linear feet or 35 cubic feet of RACM is planned for removal on the project, formal written notification to US EPA Region IX, CARB or local AQMD is required.

Cal/OSHA

Disturbance of any ACM or ACCM could generate airborne asbestos fibers and would be regulated by Cal/OSHA. Cal/OSHA worker health and safety regulations apply during any disturbance of ACM or ACCM by a person while in the employ of another. This is true regardless of friability or quantity disturbed. Since it has been estimated more than 100 square feet of ACCM does exist and will be impacted during the upcoming project, a licensed asbestos contractor, certified by the State of California, and registered with Cal/OSHA is required to perform the asbestos related removal work. Entek recommends a licensed asbestos contractor be used to remove ACCM even if less than 100 square feet of ACCM are being disturbed.

For compliance with Title 8, Section 341.9, the asbestos contractor must send written notice at least one day (24 hours) prior to start of any work which will impact any amount of asbestos to the local office for the State of California, Department of Occupational Safety and Health, and perform all work in accordance with Cal/OSHA requirements.

Lead Inspection and Sampling

An X-ray fluorescence (XRF) Spectrum Analyzer was used during the lead inspection portion of this survey as a screening tool in determining if lead is present in quantities which would require existing paints and/or coatings to be classified as Lead-Based Paint (LBP).

In XRF spectroscopy, the process begins by exposing the sample in question to a source of x-rays or gamma rays. As these high energy photons strike the sample, they tend to knock electrons out of their orbits around the nuclei of the atoms that make up the sample. When this occurs, an electron from an outer orbit, or "shell", of the atom will fall into the shell of the missing electron. Since outer shell electrons are more energetic than inner shell electrons, the relocated electron has an excess of energy that is expended as an XRF photon. This fluorescence is unique to the composition of the sample. The detector collects this spectrum and converts them to electrical impulses that are proportional to the energies of the various x-rays in the sample's spectrum. Since each element has a different and identifiable x-ray signature, we can look at specific parts of the emitted spectrum, and by counting the pulses in the sector, determine the presence and concentration of the element(s) in question within the sample. Entek used a Niton XRF spectrum analyzer which is specific to measuring only lead in the building substrate.

Lead Sampling Results

XRF Spectrum Analyzer testing indicated lead was present in concentrations $>1.0 \text{ mg/cm}^2$

on various building components. XRF direct reading technology is not capable of determining lead concentrations below 1.0 mg/cm². The limit of detection for this device with a 95% confidence level is 1.0 mg/cm². As a result, any reading provided by the XRF technology does not provide adequate information to determine the actual content of lead in the paint/coating being tested. Any XRF reading less than 1.0 mg/cm² (including readings of 0.00) only indicate lead is not present at levels high enough to classify the paint/coating as LBP. Coatings or materials which resulted in a lead concentration of below 1.0 mg/cm² were then sampled and analyzed by atomic absorption spectrometry (AAS) for lead content. Results of the XRF analysis and laboratory analysis are included in the tables below. Coating which reported concentrations below the laboratories detection limit are included in the laboratory results attached to this report.

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/LCP
Control Center Building			
Tan Paint	100 ppm	Exterior Metal Siding	LCP
Diversion Dam			
Gray Paint	3,100 ppm	Handrails throughout COPCO2 Dam and Headgate	LCP
Former Bunkhouse			
Light Green Paint	2,700 ppm	Wood Walls Throughout Interior	LCP
White Pint on Green Paint	1,800 ppm	Throughout Exterior Siding	LCP
Former Cookhouse			
White Paint	990 ppm	Throughout Interior Wood Walls	LCP
Off-White	41,000 ppm	Wood Siding Under Metal Siding	LBP
Hazardous Waste Storage			
White Paint	2,500 ppm	Above Ground Concrete Casings	LCP
Light Gray Over Green	1,800 ppm	Exterior Wood Siding	LCP
Powerhouse			
White Paint	52 ppm	Throughout Basement Walls and Floor	LCP
Gray Paint	510 ppm	Stroll Case Piping in Basement	LCP
Orange Paint	130,000 ppm	On Mechanical Equipment in Basement	LBP
Gray Paint	120,000 ppm	Steel Column Beams on Main Level	LBP
Beige Paint	1,000 ppm	Concrete Walls of Office/Storage Main Level	LCP
Residence 3			
Dark Green Paint	56,000 ppm	Exterior Wood Siding	LBP
Light Green Paint	120 ppm	Exterior Wood Trim	LCP
White Paint	76,000 ppm	Exterior Door and Trim	LBP

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/ LCP
Residence 4			
Blue Paint	4,500 ppm	Exterior Wood Siding	LCP
White Paint	330 ppm	Exterior Wood Trim	LCP
Yellow Paint	330 ppm	Exterior Wood Trim	LCP
Residence 5			
Light Brown Paint	1,600 ppm	Exterior Wood Siding	LCP
White Paint	74 ppm	Exterior Wood Trim	LCP
White Paint	180 ppm	Interior Drywall Walls	LCP
Structures Not Surveyed			
<i>All coatings associated with structures which were not survey as part of this assessment as outlined in the building descriptions section of this report shall be assumed to contain lead in concentrations greater than 5,000 ppm until such time that bulk sampling and analysis can be conducted.</i>			

LBP - Materials/coatings/paints meeting the definition of lead-based paint as defined by the CDPH and the US EPA, currently defined as containing lead in concentrations equal to or greater than 1.0 mg/cm², 5,000 ppm, or 0.5% by weight.

LCP - Materials/coatings/paints which contain measurable amounts of lead. The disturbance of these materials/coatings/paints is regulated by Cal/OSHA.

Lead Regulatory Compliance

Any upcoming project which may result in the disturbance of lead containing products or surfaces, but is not intended to remediate a lead hazard or specifically designed to remove LBP to reduce or eliminate a known hazard, would be considered “lead related construction work”.

Lead related construction work does not fit the classification of a “lead abatement project” under CDPH Title 17 regulations. “*Abatement*” is defined in Title 17, Division 1, Chapter 8, Article 1 as “any set of measures designed to reduce or eliminate lead hazards or LBP for public and residential buildings, but does not include containment or cleaning.” A *lead hazard* is defined in Title 17, Division 1, Chapter 8, Article 1 as “deteriorated LBP, lead contaminated dust, lead contaminated soil, disturbing LBP or presumed LBP without containment, or any other nuisance which may result in persistent and quantifiable lead exposure.”

Lead related construction work means any “construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead”. (Title 17, California Code of Regulations, Division 1, Chapter 8, Article 1).

Currently, Cal/OSHA has not established a definition for LBP, nor have they established minimum concentrations where their regulations do not apply. Cal/OSHA regulates all construction activities involving materials containing lead, including LBP. These regulations are found in CCR, Title 8 Section 1532.1 (§1532.1) Lead in Construction.

Cal/OSHA has not established a concentration of lead in a product where their regulations do not apply, therefore, any disturbance to products containing lead come under the jurisdiction of Cal/OSHA and their regulations. Disturbance of paints/coatings or materials determined to be LBP may trigger a pre-work notification to Cal/OSHA if “trigger tasks” disturb 100 square feet or more of those paints/coatings or materials. Trigger tasks are described in Title 8 CCR 1532.1.

Fluorescent Light Tubes and Polychlorinated Biphenyls (PCBs)

Fluorescent light tubes which contain mercury are considered a universal waste and must be packaged and recycled appropriately if they are removed from a building and not used again. The regulation, called the Universal Waste Rule, is in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 23.

Fluorescent light tubes are the bulb or tube portion of an electric lighting device and are commonly referred to as “lamps”. Examples of other common electric lamps considered to be universal wastes include, but are not limited to, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Any lamp which is not spent and has been designated to be reused is not classified as a waste and does not meet the requirements of a hazardous waste or a universal waste.

Spent lamps typically contain concentrations of mercury exceeding the established Total Threshold Limit Concentration (TTLC) and/or the Soluble Threshold Limit Concentration (STLC) values. Therefore, these lamps must be sent to an authorized recycle facility or to a universal waste consolidator for shipment to an authorized recycling facility.

At a minimum, if removed lamps will not be reused they must be packaged in boxes/packages/containers which are structurally sound, adequate to prevent breakage, and compatible with the content of the lamps. These packages must remain closed and be free of damage which could cause leakage under reasonably foreseeable conditions. Each container must be labeled or marked clearly with one of the following phrases: “Universal Waste Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).” Entek recommends shipping any lamp not designated for reuse to a universal waste recycling facility once they have been packaged.

PCB containing light ballasts are considered a hazardous waste, and must be properly manifested for transport to a hazardous waste facility. Any contractor who may perform PCB related work (inspection, removal, clean-up) must be trained and qualified to do so. All workers must also follow current OSHA regulations including 29 CFR 1910.120 and 8 CCR 5192, as well as, other applicable federal, state, and local laws, and regulations. While light ballasts marked “No PCB” are not considered a hazardous waste, they are considered a universal waste. As a result, removal, packaging, and disposal/recycling of these types of ballasts must be conducted in accordance with current regulations of Title 22.

Entek and AECOM made an effort to assist in quantifying select materials throughout the structure. The below quantities are estimates based on observations during the assessment. It shall be the contractor responsibility to verify the total quantities present.

Universal Waste Inventory	
Other Regulated Building Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	96
Mercury-Containing fluorescent light tubes (8' length)	61
Magnetic light ballasts	107
HID Lamps	10

Thermostats with Mercury Switches

It is possible existing thermostats may utilize switches containing mercury. The mercury in these switches would be considered a hazardous waste if removed and disposed. Any work requiring removal of thermostats containing mercury switches, must include having the switches inspected for the presence of mercury, and subsequently following all requirements for packaging and disposal of any switch found to contain mercury.

Freon and Fluorocarbons

Freon and other fluorocarbon products associated with HVAC systems, refrigerators, etc. may be present in or on the exterior of the buildings included in this investigation. Prior to demolition of a structure or removal of existing HVAC systems, refrigerators, or any other type of equipment which typically uses these types of coolant products shall have the coolant materials investigated prior to their demolition and removed from the mechanical systems and recycled in accordance with Cal/EPA requirements.

Smoke Detectors Which May Contain a Radioactive Element

It is possible existing smoke detectors may contain a radioactive element. These types of detectors are easily identified by reviewing the label which is usually found on the back of the detector. Older units may display the international radiation symbol (three bladed propeller) and the radioactive content. Newer units state the radioactive content and their Nuclear Regulatory Agency (NRC) license number.

Any work requiring the removal of smoke detectors with a radioactive element must include contacting the manufacturer of the smoke detector to determine their return policies. The California Department of Toxic Substance Control (DTSC) has stated that it is a condition of the manufacturers NRC license they must accept returned units for disposal.

Limitations

Entek inspected only the specific designated areas identified by the Owner to be included in the upcoming project. Select structures as outlined in the building description portion of this report were not assessed due to either safety concerns or at the request of the building owner. As a result the information provided in this inspection report may not be used to

extend the inspection results to areas not included in this report without additional review and sampling as necessary.

Entek did not perform any destructive sampling to look into ceiling and wall cavities. As a result, it may be possible for materials to be hidden in these areas which are not included in this report. Entek also did not employ any destructive measures on floors of interior spaces or exterior areas covered with asphalt, concrete, or dirt.

If any new materials not listed as having been sampled, or listed as assumed for containing asbestos in this report are discovered, the new material must be assumed to contain asbestos until properly inspected and tested for asbestos content.

Entek's policy is to retain a full copy of these written documents for three (3) years once the file is closed. At the end of the 3 year period the written files will be destroyed without further notice. It is suggested copies of the file(s) are maintained as per your policy.

Entek will be providing only this electronic copy of the report and its attachments for your use. However, if you would like a hard copy of this report please do not hesitate to ask. Entek will be happy to mail the report upon receipt of your request.

Thank you for choosing Entek for your environmental needs. Please call me at (916) 632-6800 if you have any questions regarding this report.

Prepared by: Andy Roed
Andy Roed, CIH, CSP, CAC
President
Cal/OSHA CAC #16-5695
CDPH I/S/M Certification #2989

Appendices

- A. Asbestos Related Documents
- B. Lead Related Documents
- C. Sample Location Maps
- D. Backup Documentation
- E. Historical Documents

APPENDIX A

ASBESTOS RELATED DOCUMENTS

- Bulk Asbestos Analysis Report From Asbestech
- Bulk Asbestos Material Analysis Request Form for Entek

ASBESTECH
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Carmichael, California 95608
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Client:

Entek Consulting Group, Inc.
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Rocklin, CA 95677

Job:

20-5562 NV5
COPCO2

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67937

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2CCB-01A	White ceramic tile restroom behind door	NONE DETECTED	Granular Mins.
	White grout	NONE DETECTED	Granular Mins.
02A	White sink undercoating kitchen sink	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67941

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2FBH-01A	Gray concrete foundation of structure	NONE DETECTED	Granular Mins.
02A	Black felt paper under wood siding	NONE DETECTED	Tar Binder Cellulose
02B	Black felt paper under wood siding	NONE DETECTED	Tar Binder Cellulose
03A	Black felt paper under roofing	NONE DETECTED	Tar Binder Cellulose
03B	Black felt paper under roofing	NONE DETECTED	Tar Binder Cellulose

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67943
Date/Time Collected: 10/7/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2FCH-01A	Beige caulking exterior windows	NONE DETECTED	Calcite
02A	Gray concrete foundation of building	NONE DETECTED	Granular Mins.
03A	Yellow-tan fibrous rope, attic, boxed	NONE DETECTED	Cellulose
04A	White powdery adsorb, attic on ground under boxes	NONE DETECTED	Synthetics

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67930-1
Date/Time Collected: 9/16/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2FS-01A	White 4"x4" ceramic tile, kitchen pass through	NONE DETECTED	Granular Mins.
	Gray grout	NONE DETECTED	Granular Mins.
02A	Black fibrous insulation , heater in main dining area	NONE DETECTED	Fibrous Glass
	Black coating	NONE DETECTED	Opagues
03A	Beige vinyl flooring w/ burlap backing, main dining area near floor vent	NONE DETECTED	Cellulose Opagues
	Black felt paper	NONE DETECTED	Tar Binder Cellulose
	Yellow mastic	NONE DETECTED	Synthetics
03B	Beige vinyl flooring w/ burlap backing, main dining area near floor vent	NONE DETECTED	Cellulose Opagues
	Black felt paper	NONE DETECTED	Tar Binder Cellulose
	Yellow mastic	NONE DETECTED	Synthetics
04A	Gray brick, detached incinerator at corner of property	NONE DETECTED	Granular Mins.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67930-2
Date/Time Collected: 9/16/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2FS-04B	Gray brick, detached incinerator at corner of property	NONE DETECTED	Granular Mins.
05A	Gray cementitious siding panels, exterior siding of bldg.	5-10 CHRYSOTILE	Calcite
	Black felt paper	NONE DETECTED	Tar Binder Cellulose
	Gray paint	NONE DETECTED	Opagues
05B	Gray cementitious siding panels, exterior siding of bldg.	5-10 CHRYSOTILE	Calcite
	Black felt paper	NONE DETECTED	Tar Binder Cellulose
	Gray paint	NONE DETECTED	Opagues
05C	Gray cementitious siding panels, exterior siding of bldg.	5-10 CHRYSOTILE	Calcite
	Gray paint	NONE DETECTED	Opagues
06A	Beige wallpaper, interior wall in kitchen	NONE DETECTED	Vinyl Cellulose
	Associated clear glue	NONE DETECTED	Synthetics

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67930-3
Date/Time Collected: 9/16/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2FS-07A	Gray caulking under edge of metal roofing, roof near gutter	NONE DETECTED	Synthetics Calcite

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67942
Date/Time Collected: 10/7/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2HWS-01A	Gray concrete over CMU, foundation of building	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67936
Date/Time Collected: 10/7/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2MB-01A	Black asphalt exterior of building	NONE DETECTED	Granular Mins. Tar Binder
02A	Gray concrete foundation of building	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67944

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2MSB-01A	White Tyvek house wrap under siding of building	NONE DETECTED	Synthetics
02A	Gray concrete foundation of building	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67945
Date/Time Collected: 10/7/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2PH-01A	Gray concrete floor of Powerhouse	NONE DETECTED	Granular Mins.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67924

Date/Time Collected: 9/16/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2R3-01A	White ceiling texture, living room	<1 CHRYSOTILE	Calcite
01B	White ceiling texture, living room	<1 CHRYSOTILE	Calcite
01C	White ceiling texture, living room	<1 CHRYSOTILE	Calcite
02A	Gray concrete foundation of bldg.	NONE DETECTED	Granular Mins.
03A	Gray concrete drain pipe	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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Job:

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67992

Date/Time Collected: 9/16/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/20/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2R3-01A	White ceiling texture, living room	<1 CHRYSOTILE	Calcite
01B	White ceiling texture, living room	<1 CHRYSOTILE	Calcite
01C	White ceiling texture, living room	<1 CHRYSOTILE	Calcite

NOTE: These samples were analyzed by quantitative Point Counting using a Chalkley Point Array over 400 non-empty points.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67931-1
Date/Time Collected: 9/16/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2R5-01A	Black mastic behind wall panels, living room	1-5 CHRYSOTILE	Opagues
	White joint compound	<1 CHRYSOTILE	Calcite
	White drywall	NONE DETECTED	Gypsum Fibrous Glass
02A	Brown brick patter VSF, hallway closet	NONE DETECTED	Cellulose Opagues
	Yellow mastic	NONE DETECTED	Opagues
02B	Brown brick patter VSF, hallway closet	NONE DETECTED	Cellulose Opagues
	Yellow mastic	NONE DETECTED	Opagues
03A	Yellow mastic behind kitchen backsplash panel	NONE DETECTED	Synthetics
	White joint compound	<1 CHRYSOTILE	Calcite
	White paint	NONE DETECTED	Opagues
04A	Gray concrete foundation of structure	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:

Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:

20-5562 NV5
COPCO2

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67931-2

Date/Time Collected: 9/16/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2R5-05A	Gray pebble VSF, restroom closet	15-20 CHRYSOTILE	Vinyl Cellulose
	Gray mastic	NONE DETECTED	Opagues
06A	Black sink undercoating, kitchen sink	NONE DETECTED	Tar Binder Polyethylene Calcite

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:

Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:

20-5562 NV5
COPCO2

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67940

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2R4-01A	Black mastic behind wall panels Living room	1-5 CHRYSOTILE	Opagues
02A	Gray concrete foundation of building	NONE DETECTED	Granular Mins.
03A	Dark gray concrete pipe crawl space	NONE DETECTED	Granular Mins.
04A	Yellow mastic behind paneling in kitchen	NONE DETECTED	Synthetics
	White mud	<1 CHRYSOTILE	Calcite
05A	White sink undercoating kitchen sink	NONE DETECTED	Calcite Cellulose Mica

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

ASBESTECH
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Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:

Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:

20-5562 NV5
COPCO2

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67939
Date/Time Collected: 10/7/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-CC2DD-01A	Gray concrete Dam walkway	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.



67937

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2CCB-01A	Ceramic Tile and Associated Grout / Restroom, Behind Door
ECG-20-5562-CC2CCB-02A	White Sink Undercoating / Kitchen Sink

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2CCB\Bulk Request
9-15-2020.wpd

Delivered by: 

Date: 10/7/20 **Time:** 1:40 **AM/PM**

Received by: 

Date: 10/7/20 **Time:** 1:40 **AM/PM**



BULK ASBESTOS MATERIAL *Analysis Request*

67941

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday

Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2FBH-01A	Concrete / Foundation of Structure
ECG-20-5562-CC2FBH-02A	Black Felt Paper / Under Wood Siding
ECG-20-5562-CC2FBH-02B	Black Felt Paper / Under Wood Siding
ECG-20-5562-CC2FBH-03A	Black Felt Paper / Under Roofing
ECG-20-5562-CC2FBH-03B	Black Felt Paper / Under Roofing

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2FBH\Bulk Request 9-15-2020.wpd

Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

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Date: 10 / 7 / 20 **Time:** 1040 AM/PM



67943

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2FCH-01A	Beige Caulking / Exterior Windows
ECG-20-5562-CC2FCH-02A	Concrete / Foundation of Building
ECG-20-5562-CC2FCH-03A	Fibrous Rope / Attic, Boxed
ECG-20-5562-CC2FCH-04A	White Powdery Adsorb / Attic, on ground under boxes

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Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 0 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 1040 0 AM/PM



BULK ASBESTOS MATERIAL Analysis Request

67930

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Job Number: 20-5562

Client Name: NV5

Site Address: COPCO2

Lab: Asbestech

Collected by: Andy Roed

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2FS-01A	4"x4" Ceramic Tile and Grout / Kitchen Pass Through
ECG-20-5562-CC2FS-02A	Black Fibrous Insulation / Heater In Main Dining Area
ECG-20-5562-CC2FS-03A	Beige Vinyl Flooring with Burlap Backing and Black Mastic over Felt Paper / Main Dining Area near Floor Vent
ECG-20-5562-CC2FS-03B	Beige Vinyl Flooring with Burlap Backing and Black Mastic over Felt Paper / Main Dining Area near Floor Vent
ECG-20-5562-CC2FS-04A	Gray Brick / Detached Incinerator at Corner of Property
ECG-20-5562-CC2FS-04B	Gray Brick / Detached Incinerator at Corner of Property
ECG-20-5562-CC2FS-05A	Cementitious Siding Panels over Black Felt Paper / Siding, Exterior of Building
ECG-20-5562-CC2FS-05B	Cementitious Siding Panels over Black Felt Paper / Siding, Exterior of Building
ECG-20-5562-CC2FS-05C	Cementitious Siding Panels over Black Felt Paper / Siding, Exterior of Building
ECG-20-5562-CC2FS-06A	Wallpaper and Associated clear glue / Interior wall in kitchen
ECG-20-5562-CC2FS-07A	Gray Caulking under edge of metal roofing / Roof near gutter

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Delivered by: 

Date: 10 / 17 /20 Time: 10:00 AM/PM

Received by: 

Date: 10 / 17 /20 Time: 10:45 AM/PM



67942

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2HWS-01A	Concrete over CMU / Foundation of Building

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Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM



67936

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2MB-01A	Asphalt / Exterior of Structure
ECG-20-5562-CC2MB-02A	Concrete / Foundation of Building

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2MB\Bulk Request
9-15-2020.wpd

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Date: 10 / 7 / 20 **Time:** 1040 AM/PM



BULK ASBESTOS MATERIAL *Analysis Request*

67944

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2MSB-01A	Tyvek House Wrap / Under Siding of Building
ECG-20-5562-CC2MSB-02A	Concrete / Foundation of Building

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Delivered by: 

Date: 10/7/20 **Time:** 1040 AM/PM

Received by: 

Date: 10/7/20 **Time:** 1040 AM/PM



67945

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2PH-01A	Concrete / Floor of Powerhouse

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Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM



67924

BULK ASBESTOS MATERIAL Analysis Request**ENTEK CONSULTING GROUP, INC.**

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020**Job Number:** 20-5562**Client Name:** NV5**Site Address:** COPCO2**Lab:** Asbestech**Collected by:** Andy Roed**Turnaround Time:** Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm**ANALYSIS REQUESTED:** Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2R3-01A	Ceiling Texture / Living Room
ECG-20-5562-CC2R3-01B	Ceiling Texture / Living Room
ECG-20-5562-CC2R3-01C	Ceiling Texture / Living Room
ECG-20-5562-CC2R3-02A	Concrete / Foundation of Building
ECG-20-5562-CC2R3-03A	Concrete / Drain Pipe

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9-15-2020.wpd

Delivered by:**Date:**

10 / 17 / 20

Time:

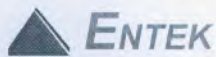
1040 AM/PM

Received by:**Date:**

10 / 17 / 20

Time:

1040 AM/PM



67931

BULK ASBESTOS MATERIAL Analysis Request

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Job Number: 20-5562

Client Name: NV5

Site Address: COPCO2

Lab: Asbestech

Collected by: Andy Roed

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2R5-01A	Black Mastic Behind Wall Panels / Living Room
ECG-20-5562-CC2R5-02A	Brown Brick Pattern VSF with Black Mastic / Hallway Closet
ECG-20-5562-CC2R5-02B	Brown Brick Pattern VSF with Black Mastic / Hallway Closet
ECG-20-5562-CC2R5-03A	Yellow Mastic / Behind Kitchen Back splash Panel
ECG-20-5562-CC2R5-04A	Concrete / Foundation of Structure
ECG-20-5562-CC2R5-05A	Gray Pebble VSF with tan mastic / Restroom Closet
ECG-20-5562-CC2R5-06A	Black Sink Undercoating / Kitchen Sink

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Date: 10 / 17 /20 **Time:** 1040 AM/PM

Received by: [Signature]

Date: 10 / 17 /20 **Time:** 1040 AM/PM



67940

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2R4-01A	Black Mastic Behind Wall Panels / Living Room
ECG-20-5562-CC2R4-02A	Concrete / Foundation of Building
ECG-20-5562-CC2R4-03A	Concrete Pipe / Crawl Space
ECG-20-5562-CC2R4-04A	Yellow Mastic / Behind Paneling in Kitchen
ECG-20-5562-CC2R4-05A	White Sink Undercoating / Kitchen Sink

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Delivered by: 

Date: 10 / 7 /20 **Time:** 10:00 AM/PM

Received by: 

Date: 10 / 7 /20 **Time:** 10:40 AM/PM



67939

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-16-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: COPCO2

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2DD-01A	Concrete / Dam Walkway

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Delivered by: 

Date: 10 / 7 /20 **Time:** 1080 AM/PM

Received by: 

Date: 10 / 7 /20 **Time:** 10⁴⁰ AM/PM

APPENDIX B

LEAD RELATED DOCUMENTS

- Lead in Paint Samples Analysis Report From EMLAB
- Bulk Lead Material Analysis Request Form for Entek
- XRF Data

Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPC02
EML ID: 2498708

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-13-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Eurofins EMLab P&K

17461 Derian Ave, Suite 100, Irvine, CA 92614
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPC02

Date of Sampling: 09-16-2020
Date of Receipt: 10-08-2020
Date of Report: 10-15-2020

LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	ECG-20-CC2DD-01Pb: Gray Ove Red on Head Gate Structural Components
Comments (see below)	None
Lab ID-Version‡:	11905899-1
Analysis Date:	10/13/2020
Sample type	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	72 ppm
Sample size	0.1393 grams
§Total Lead Result	< 72 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPC02
EML ID: 2498711

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-12-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPC02Date of Sampling: 09-16-2020
Date of Receipt: 10-08-2020
Date of Report: 10-14-2020**LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY**

Location:	ECG-20-5562-CC2FCH-01Pb: Off White Paint on Exterior Wood Under Metal Siding
Comments (see below)	None
Lab ID-Version‡:	11905915-1
Analysis Date:	10/12/2020
Sample type	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	59 ppm
Sample size	0.1692 grams
§ Total Lead Result	41000 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPCO2
EML ID: 2498728

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-12-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPCO2Date of Sampling: 09-16-2020
Date of Receipt: 10-08-2020
Date of Report: 10-14-2020**LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY**

Location:	ECG-20-5562-CC2HWS-01Pb: Dark gray on wood trim	ECG-20-5562-CC2HWS-02Pb: Light gray over green on wood siding
Comments (see below)	None	None
Lab ID-Version‡:	11905837-1	11905838-1
Analysis Date:	10/12/2020	10/12/2020
Sample type	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	70 ppm	39 ppm
Sample size	0.1428 grams	0.2535 grams
§ Total Lead Result	< 70 ppm	1800 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Report for:

Andy Roed
Entek Consulting Group
4200 Rocklin Road, Suite 7
Rocklin, CA 95677

Regarding: Project: 20-5562; NV5; COPC02
EML ID: 2498710

Approved by:

Dates of Analysis:
Lead - Flame AA: 10-13-2020



Technical Manager
Andrew Ikeda

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received. Sample size, as it relates to Wipe samples only, is supplied by the client.

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Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Entek Consulting Group
C/O: Andy Roed
Re: 20-5562; NV5; COPC02Date of Sampling: 09-16-2020
Date of Receipt: 10-08-2020
Date of Report: 10-15-2020**LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY**

Location:	ECG-20-5562-CC2MB-01Pb: Red Power Coat Paint on Structural Steel	ECG-20-5562-CC2MB-02Pb: Red Paint on Bollards
Comments (see below)	A	A
Lab ID-Version‡:	11916385-1	11916386-1
Analysis Date:	10/13/2020	10/13/2020
Sample type	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	140 ppm	300 ppm
Sample size	0.0711 grams	0.0329 grams
§ Total Lead Result	< 140 ppm	< 300 ppm

Comments: A) The relative percent difference of the matrix duplicate pair was above control limits. The laboratory control sample and matrix blank were both within control limits and validated the batch.

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

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BULK LEAD MATERIAL *Analysis Request*



002498708

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 9-16-2020

Lab: Emlab P & K - Irvine

Job Number: 20-5562

Collected by: Roed

Client Name: NV5

Turnaround Time: Standard

Site Address: COPCO2

ANALYSIS REQUESTED: Lead by Flame Atomic
Absorption Spectroscopy

Special Instruction: *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2DD-01Pb	Gray Over Red on Head Gate structural Components

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2DD\Bulk Request Pb 09-15-2020.wpd

Delivered by:

via fed ex

Date:

10/17/20

Time:

9

AM/PM

Received by:

[Signature]

Date:

10/18/20

Time:

945

AM/PM



002498711

BULK LEAD MATERIAL *Analysis Request***ENTEK CONSULTING GROUP, INC.**

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 9-16-2020**Lab:** Emlab P & K - Irvine**Job Number:** 20-5562**Collected by:** Roed**Client Name:** NV5**Turnaround Time:** Standard**Site Address:** COPCO2**ANALYSIS REQUESTED:** Lead by Flame Atomic
Absorption Spectroscopy**Special Instruction:** *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2FCH-01Pb	Off White paint on exterior wood under metal siding

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2FCH\Bulk Request Pb
09-15-2020.wpd

Delivered by:**Date:**

10/17/20

Time:

9

AM/PM

Received by:**Date:**

10/18/20

Time:

945

(AM/PM)



002498728

BULK LEAD MATERIAL *Analysis Request***ENTEK CONSULTING GROUP, INC.**

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 9-16-2020**Lab:** Emlab P & K - Irvine**Job Number:** 20-5562**Collected by:** Roed**Client Name:** NV5**Turnaround Time:** Standard**Site Address:** COPCO2**ANALYSIS REQUESTED:** Lead by Flame Atomic
Absorption Spectroscopy**Special Instruction:** *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2HWS-01Pb	Dark Gray on Wood Trim
ECG-20-5562-CC2HWS-02Pb	Light Gray over Green on Wood Siding

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2HWS\Bulk Request Pb
09-15-2020.wpd

Delivered by:
via FedEx**Date:**

10/17/20

Time:

9

AM/PM

Received by:**Date:**

10/18/20

Time:

945

AM/PM



BULK LEAD MATERIAL *Analysis Request*



002498710

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7

ROCKLIN, CA 95677

(916) 632-6800 PHONE

(916) 632-6812 FAX

mainoffice@entekgroup.com

Date of Sampling: 9-16-2020

Lab: Emlab P & K - Irvine

Job Number: 20-5562

Collected by: Roed

Client Name: NV5

Turnaround Time: Standard

Site Address: COPCO2

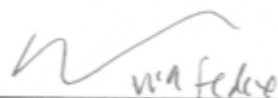
ANALYSIS REQUESTED: Lead by Flame Atomic
Absorption Spectroscopy

Special Instruction: *Please report result in PPM and % by weight. Please email results as soon as possible.*

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-CC2MB-01Pb	Red Powder Coat paint on structural steel
ECG-20-5562-CC2MB-01Pb	Red Paint on Bollards

C:\Users\salbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\COPCO2\COCs\CC2MB\Bulk Request Pb
09-15-2020.wpd

Delivered by:


W.A. Fedor

Date:

10/17/20

Time:

9

AM/PM

Received by:



Date:

10/18/20

Time:

945

AM/PM

Lead Testing Data Sheet (OSHA)

Iron Gate Development

Entek Project # 20-5562

Niton: XLp-300A Lead Analyzer

Date: 9-16, 2020

Address: COPCO2

XRF Serial No.: 24015

Source No.: TR3580

Room Equivalent: COPCO2 Development

Inspector(s): Andy Roed

Component	Substrate	Color	Test Locations	XRF Reading (mg/cm ²)
Handrail	Metal	Orange	Former Cookhouse Handrail to Second Level	2.2
Head Gate Structural	Metal	Gray/Red	Paint on Head Gate Structural Equipment	0.1
Trim	Wood	Gray	Hazardous Waste Storage Trim	0.0
Siding	Wood	Gray	Hazardous Waste Storage Wood Siding	0.1
Structural Steel	Metal	Red	Maintenance Building Structural Steel	0.0
Bollards	Metal	Red	Maintenance Building, Bollard near garage entrance	0.0

C:\Users\andy\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Reports\COPCO2\XRF\Lead Test Data Sheet\OSHA.wpd

All XRF Readings ≥ 1.0 mg/cm² = Lead Based Paint (LBP)All XRF Readings < 1.0 mg/cm² = Lead Containing Coating (LCC)

APPENDIX C

Sample Location Maps

- Asbestos and Lead Sample Location Diagrams

AECOM Sample Locations

Entek Sample Locations

CC2DD-01A

CC2WSP-1-01*

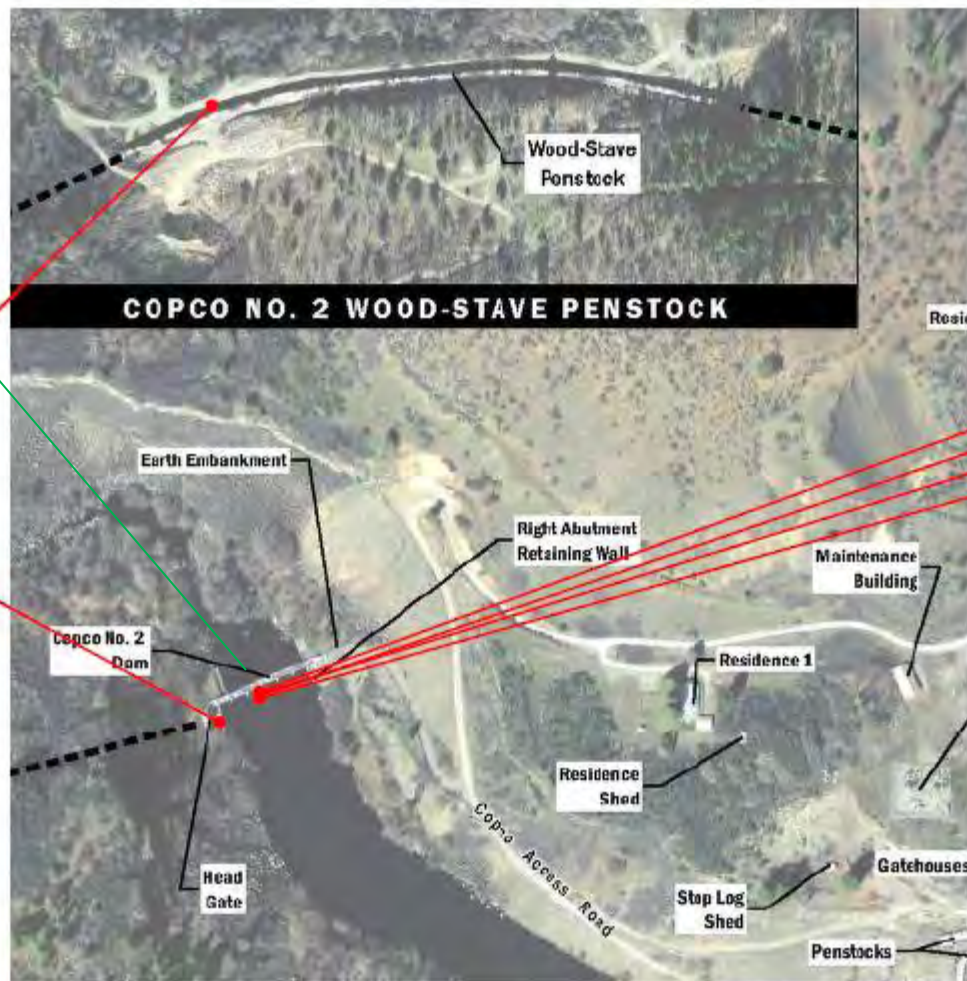
CC2DD-2-01*

CC2DD-1-01

CC2DD-1-02

CC2DD-1-03

CC2DD-Pb1-01



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

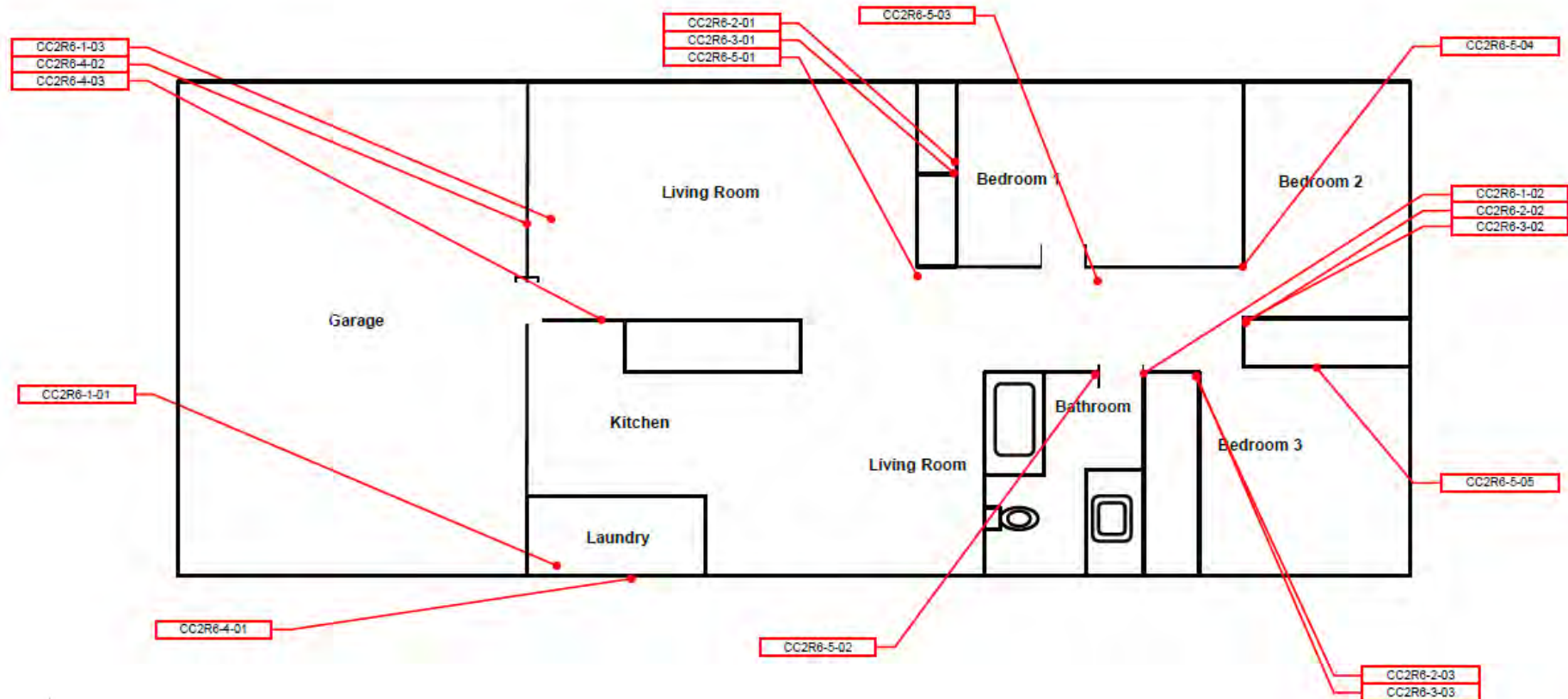
Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos Bulk Sample Locations
Collected by Andy Roed
On September #, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

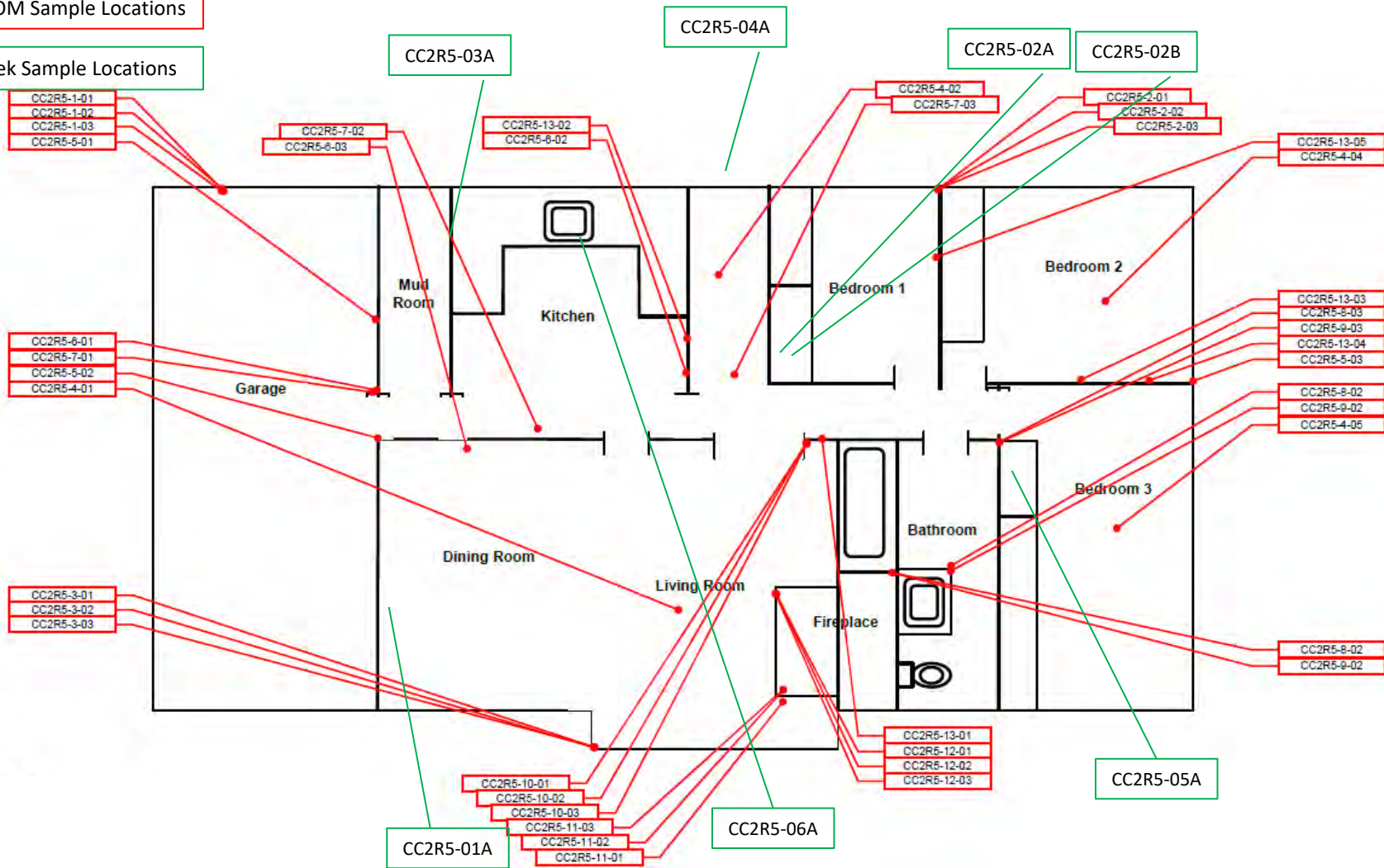
Entek Consulting Group, Inc.
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Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



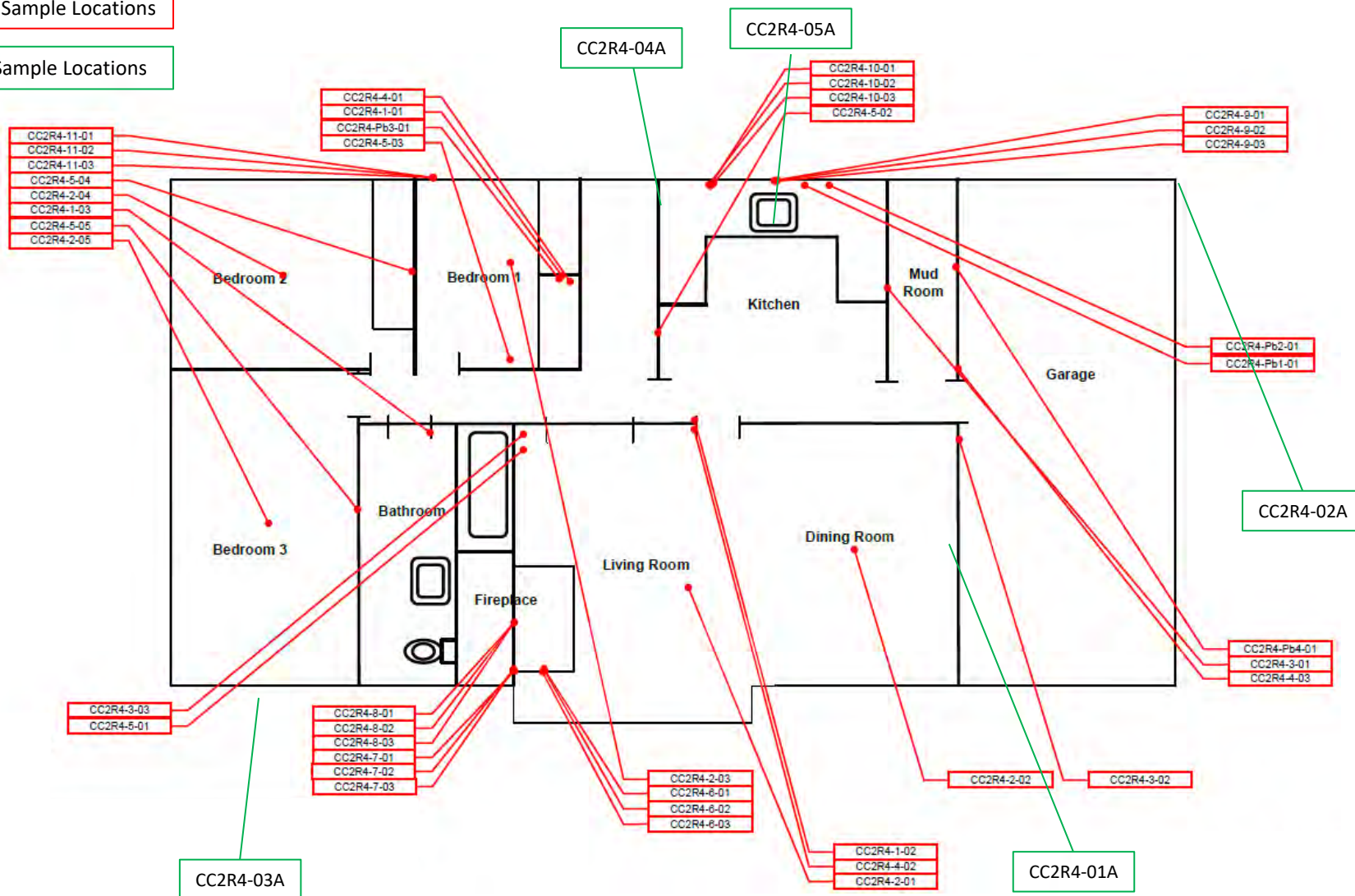
NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Asbestos and Lead Bulk Sample Locations
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Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



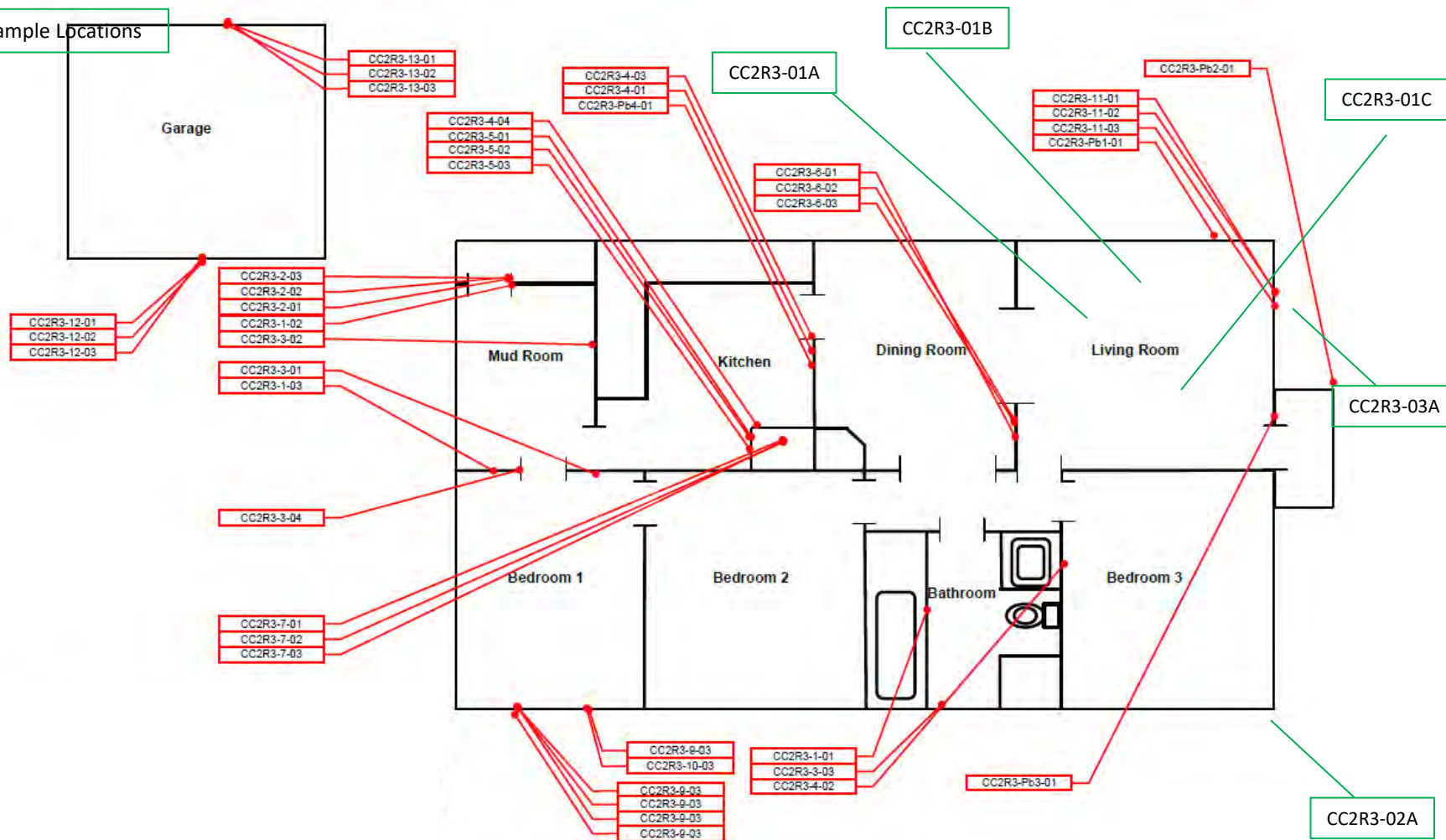
NV5
Klamath Dams
COPCO2 Dam
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Asbestos and Lead Bulk Sample Locations
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AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

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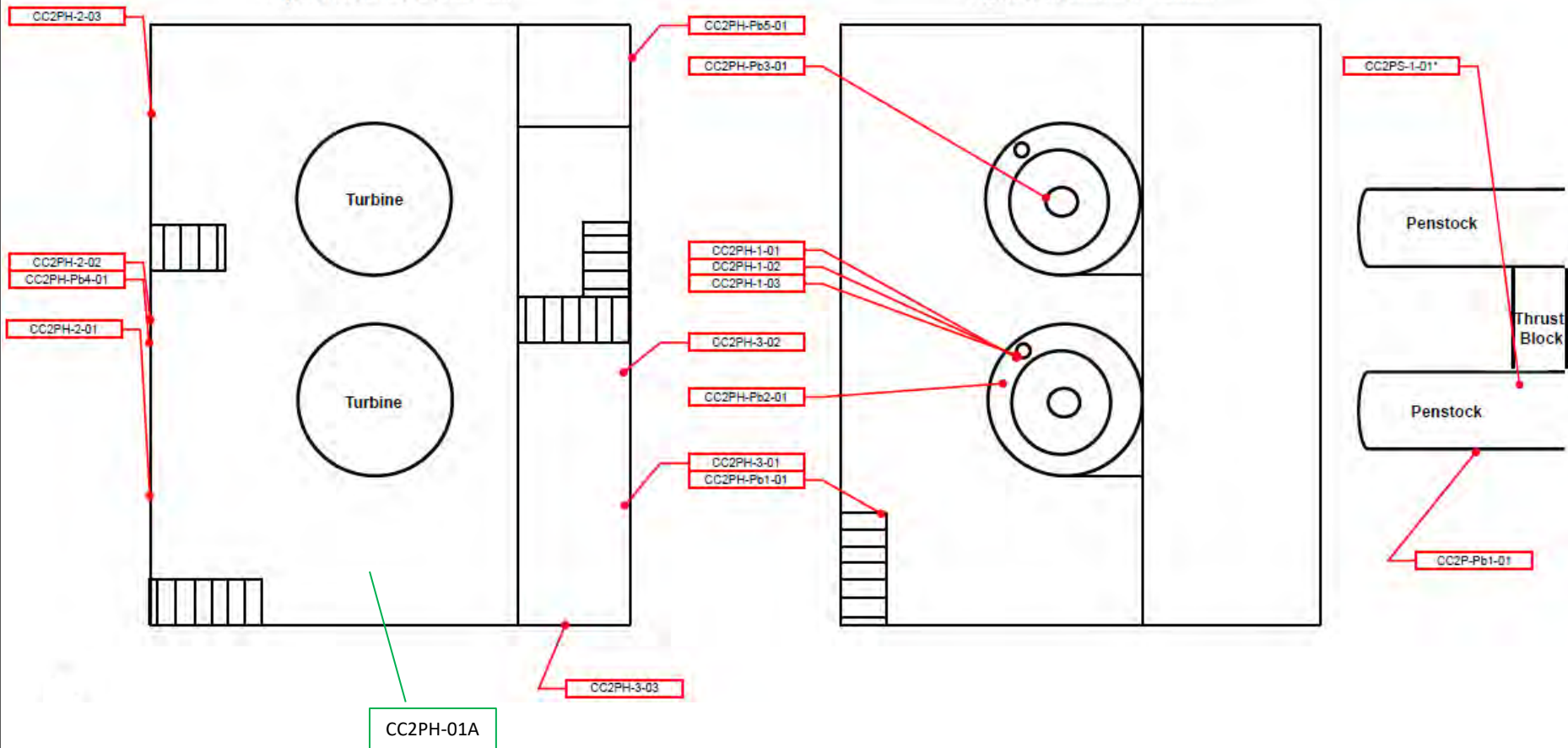
Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations

Copco 2 Powerhouse Main Floor

Copco 2 Powerhouse Basement



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

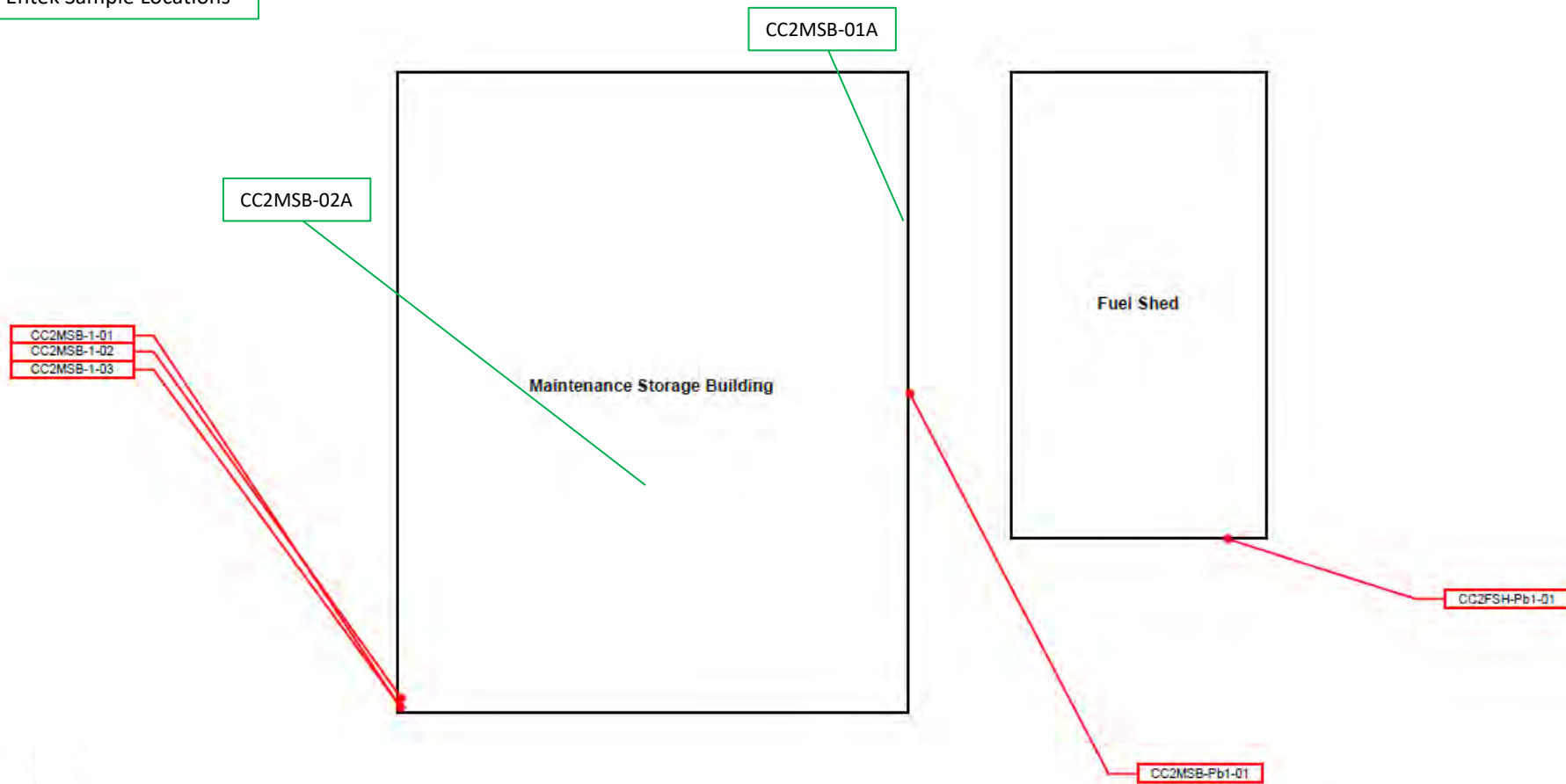
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Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 17, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

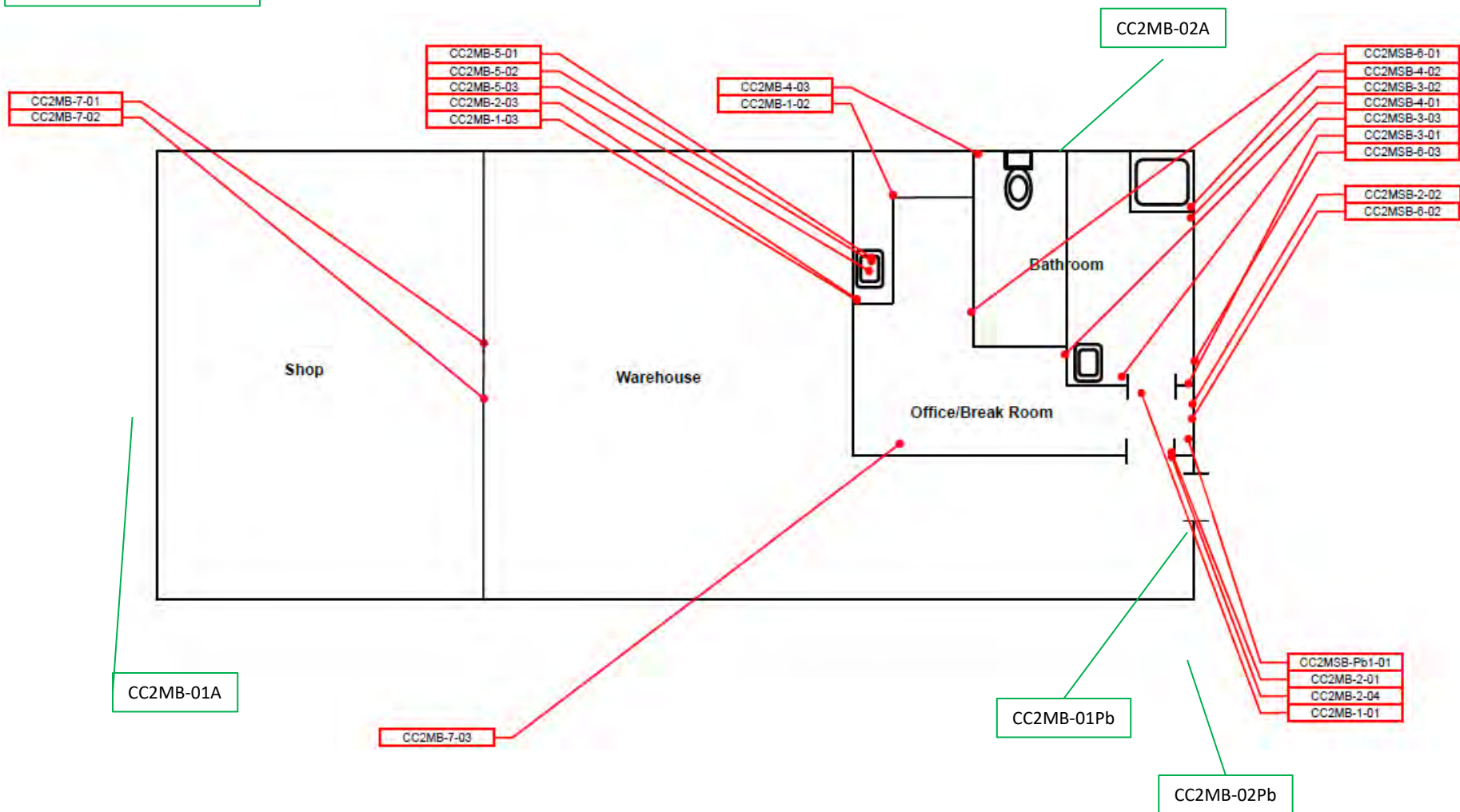
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Rocklin, CA 95677
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Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
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Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations

CC2HWS-01Pb

CC2HWS-02Pb

CC2HWS-01A

HazMat Storage Shed

Above Ground Storage Tanks

CC2HWS-1-01

CC2AST-Pb1-01

CC2HWS-1-02

CC2HWS-1-03

CC2HWS-Pb1-01

NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

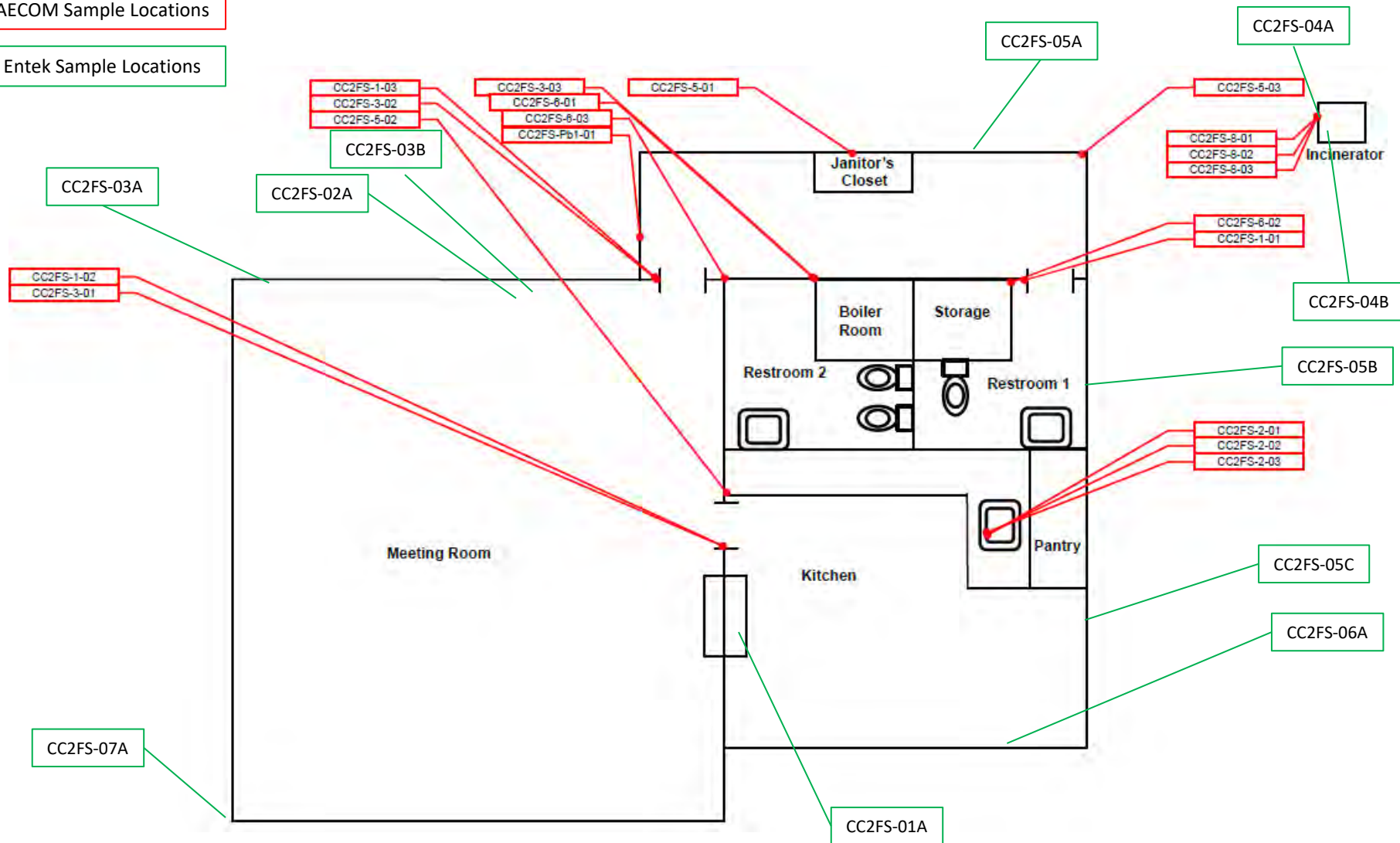
Entek Consulting Group, Inc.
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Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



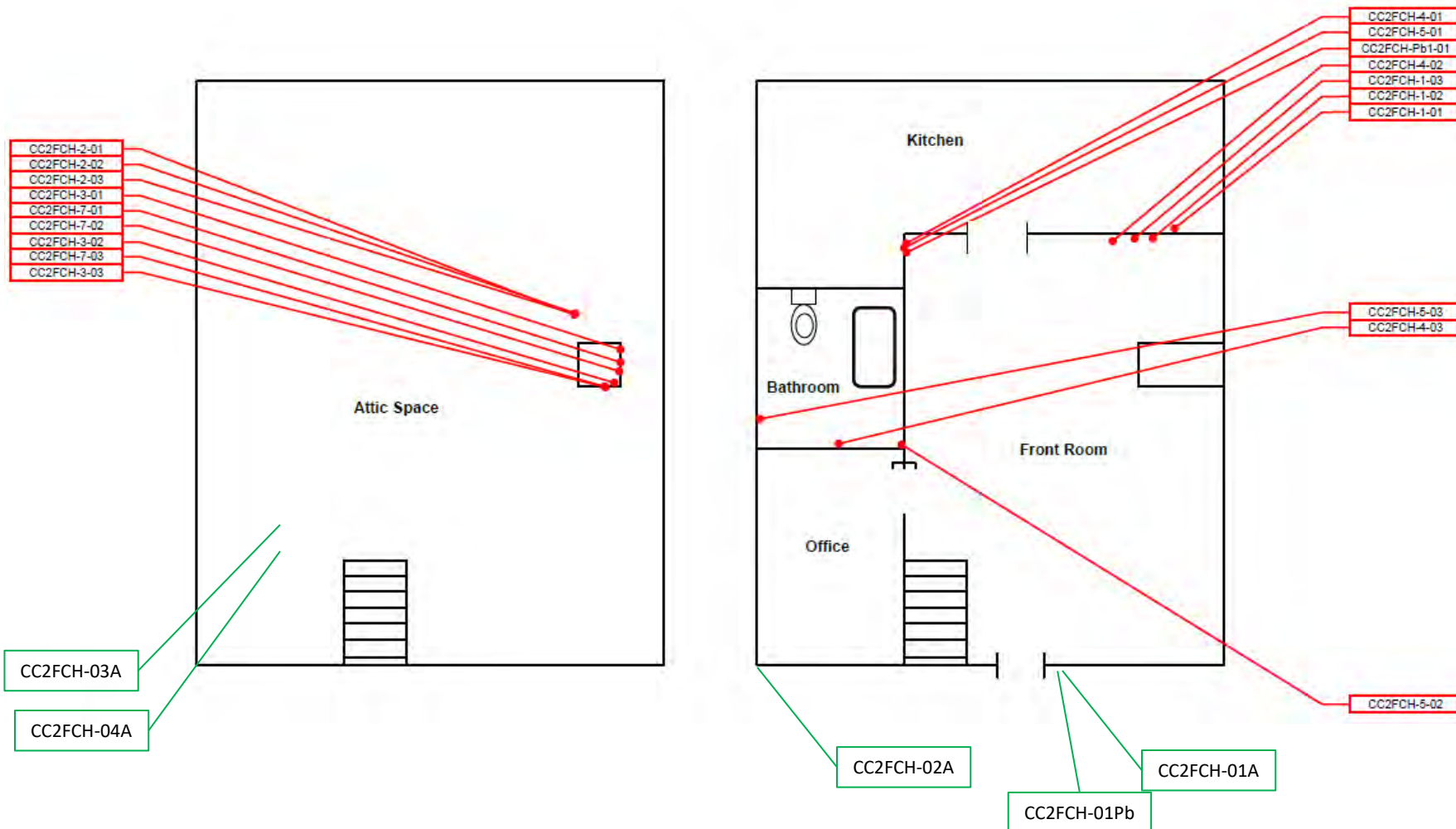
NV5
Klamath Dams
COPCO2 Dam
Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



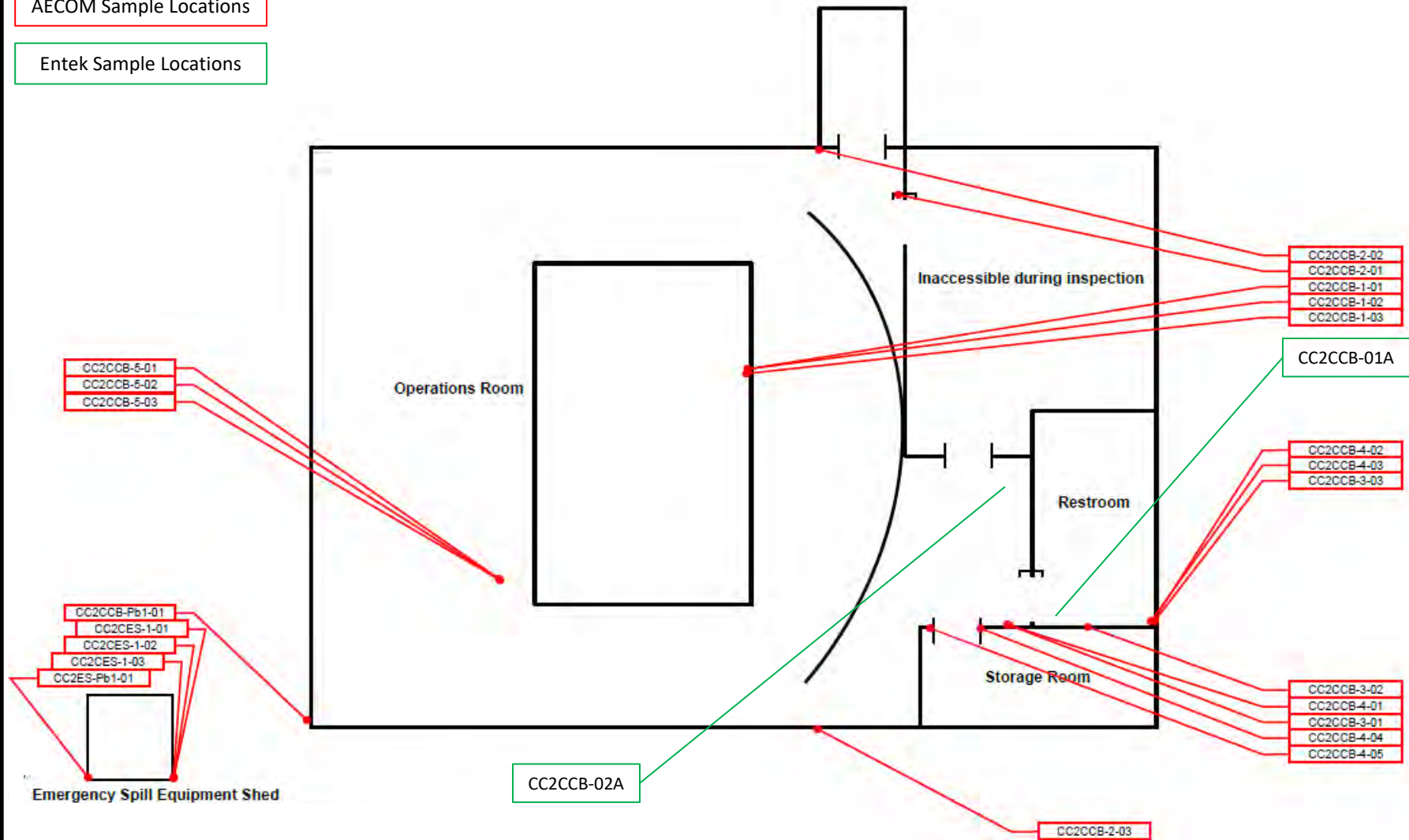
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Klamath Dams
COPCO2 Dam
Hornsbrook, CA

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Rocklin, CA 95677
Map Not to Scale

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

AECOM Sample Locations

Entek Sample Locations



NV5
Klamath Dams
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Hornsbrook, CA

Entek Consulting Group, Inc.
4200 Rocklin Road, Suite 7
Rocklin, CA 95677
Map Not to Scale

Cloud\Clients\NV5\20-5562 Klamath Dams\Drawings\COPCO2

Asbestos and Lead Bulk Sample Locations
Collected by Andy Roed
On September 16, 2020
Project Number 20-5562

APPENDIX D

BACK UP DOCUMENTATION

- Inspector Accreditations and Certifications
- Laboratory Accreditations for Asbestos and Lead Analysis

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Andrew R Roed

Name



Certification No. **16-5695**

Expires on **08/17/21**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



Andrew Roed

CERTIFICATE TYPE:

Lead Inspector/Assessor

NUMBER:

LRC-00002989

EXPIRATION DATE:

9/11/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101442-0

ASBESTECH
Carmichael, CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

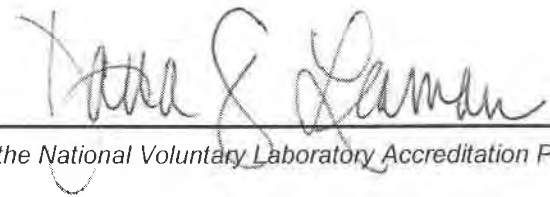
Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2020-07-01 through 2021-06-30

Effective Dates




For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, CA 95608
Mr. Tommy Conlon
Phone: 916-481-8902 Fax: 916-481-3975
Email: asbestech@sbcglobal.net
<http://www.asbestechlab.com>

ASBESTOS FIBER ANALYSIS

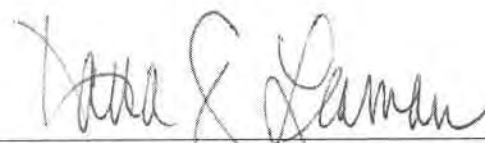
NVLAP LAB CODE 101442-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



For the National Voluntary Laboratory Accreditation Program



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

Asbestech

6825 Fair Oaks Boulevard

Carmichael, CA 95608

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1153**

Expiration Date: **3/31/2022**

Effective Date: **4/1/2020**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



**CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing**



Asbestech

6825 Fair Oaks Boulevard
Carmichael, CA 95608
Phone: 9164818902

Certificate No. 1153
Expiration Date 3/31/2022

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010 001	Bulk Asbestos	EPA 600/M4-82-020
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AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: 178697

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE**
- ✓ **ENVIRONMENTAL LEAD**
- ✓ **ENVIRONMENTAL MICROBIOLOGY**
- ☐ **FOOD**
- ☐ **UNIQUE SCOPES**

Accreditation Expires: September 01, 2021

Accreditation Expires: September 01, 2021

Accreditation Expires: September 01, 2021

Accreditation Expires:

Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/01/2011

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte <i>(for internal methods only)</i>
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

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17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 07/01/2005

EMLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Direct Examination	EM-MY-S-1038	Preparation and Analysis of Spore Trap (Air) Samples for Fungal Spores, Other Biological and Non-Biological Particles
	Bulk - Direct Examination	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
	Surface - Direct Examination	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk, and Dust - Soil Samples for Quantitative Direct Microscopic Examination
Bacterial	Legionella	EM-BT-S-1045	Enumeration of Legionella. International Standard ISO 11731:2017
		EM-BT-S-1687	CDC Laboratory protocol 2016

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K

17461 Derian Ave. Suite 100, Irvine, CA 92614

Laboratory ID: **178697**

Issue Date: 08/21/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 03/01/2017

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (for internal methods only)
Paint		EPA SW-846 7000B Modified	
		NIOSH 7082	
Settled Dust by Wipe		EPA SW-846 7000B Modified	
		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>



APPENDIX E

HISTORICAL SURVEY DOCUMENTATION

- AECOM Technical Services, Inc. Report Dated April 2019



Klamath River Renewal Project

Copco No. 2 Development
Hazardous Building Materials Survey

April 2019



Prepared for:

Klamath River Renewal Corporation

Assessment Conducted by:

AECOM Technical Services, Inc.

300 Lakeside Drive, Suite 400
Oakland, California 94612

Assessment Personnel

Mr. David Simon

State of California Certified Asbestos Consultant (CAC)

Number: 92-005 (exp. 6/24/2019)

Ms. Shannon MacKay (assisted with documentation)

AHERA-Certified Building Inspector

Number: CA-015-06 (exp. 1/15/2020)

Assessment Dates

September 11, 12, and 18, 2018 and December
19, 2018

Report Prepared by:



Shannon MacKay
Environmental Consultant

Report Reviewed by:



David Simon
State of California Certified Asbestos Consultant
(CAC)



Nicole Gladu
EHS Compliance Manager

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Approximate ACM Locations:

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Acronyms and Abbreviations

ACM	Asbestos-Containing Material
ACCM	Asbestos-Containing Construction Material; Material which contains more than 0.1% asbestos
AECOM	AECOM Technical Services, Inc.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tank
CAC	California Certified Asbestos Consultant
CAB	Cement Asbestos Board
CAL/OSHA	California Occupational Safety and Health Administration
CC1	Copco 1 Development
CC2	Copco 2 Development
CCR	California Code of Regulations
CDPH	State of California Department of Public Health
CSST	California Certified Site Surveillance Technician
CFR	Code of Federal Regulations
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
HEPA	High Efficiency Particulate Air
HSA	Homogenous Sampling Area
IGD	Iron Gate Development
IGH	Iron Gate Hatchery
JCB/JC	J.C. Boyle Development
KHSA	Klamath Hydroelectric Settlement Agreement
KRRC	Klamath River Renewal Corporation
LCP	Lead-Containing Paint
mg/kg	milligrams per kilogram
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOA	Naturally Occurring Asbestos

NVLAP	National Voluntary Laboratory Accreditation Program
O&M	Operations & Maintenance
PACM	Presumed Asbestos-Containing Material
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
RM	river miles
SCAPCD	Siskiyou County Air Pollution Control District
SCDPH	Siskiyou County Department of Public Health
T8	Title 8
USEPA	United States Environmental Protection Agency

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Executive Summary

EXECUTIVE SUMMARY

Project Background:

AECOM Technical Services (AECOM) was retained by Klamath River Renewal Corporation (KRRC) to conduct a Hazardous Building Materials Survey (HBMS) of the Copco No. 2 Development. This report includes the findings of the HBMS conducted at the Copco No. 2 Development and associated support buildings and structures on September 11, 12, and 18, 2018 and December 19, 2018. The Copco No. 2 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp Energy.

The Copco No. 2 Development and original supporting structures were completed in 1925 and are located approximately 0.25 miles downstream of Copco No. 1 Dam between RM 201.3 and RM 199.7 in Siskiyou County, California. The Copco No. 2 address is 19305 Daggett Road, Hornbrook, California 96044. The reservoir created by Copco No. 2 Dam is approximately 0.3 mile long (unnamed). The Copco No. 2 powerhouse is located approximately 1.5 miles downstream of the Copco No. 2 Dam. Main features at Copco No. 2 include the reservoir, diversion dam, embankment section, gated spillway, water conveyance system, penstocks, former and current residences, a former school, a former cookhouse, storage sheds, a former bunkhouse, and a powerhouse.

South of the powerhouse are the Copco No. 2 East and West Villages. The East Village is the larger of the two and contains former and current residences as well as maintenance and storage facilities for the operation of the powerhouse and associated facilities. The West Village is comprised of only residences and a former school which is currently operated as a meeting center.

Four dams and associated structures including the J. C. Boyle Development, Copco No. 1 Development, Copco No. 2 Development, Iron Gate Development and the Iron Gate Fish and Fall Creek Hatcheries (the Sites) have been identified for decommissioning and removal under the 2016 Amended Klamath Hydroelectric Settlement Agreement (KHSA, 2016) following the U.S. Department of the Interior Bureau of Reclamation's Detailed Plan for Dam Removal – Klamath River Dams, Klamath Hydroelectric Project FERC License No. 2082 Oregon – California (Detailed Plan) (USBR 2012). The Iron Gate Fish Hatchery, Fall Creek Fish Hatchery, and the City of Yreka Diversion Dam have been identified for improvements under the KHSA. All four developments will be transferred to their respective states after dam decommissioning and removal.

The Sites are located on land currently owned by PacifiCorp. An HBMS was conducted at each of the seven Sites, and an HBMS report issued for the Sites as follows:

1. J.C. Boyle Development
2. Copco No. 1 Development
3. Copco No. 2 Development
4. Iron Gate Development
5. Iron Gate and Fall Creek Hatcheries
6. City of Yreka Diversion

Hazardous Building Materials Survey:

AECOM assessed Copco No. 2 Development and support facilities for the following hazardous building materials:

- Asbestos-containing materials (ACMs);
- Asbestos-containing construction materials (ACCMs);
- Assumed asbestos-containing materials;
- Lead-containing coatings (paints);
- Mercury-containing light tubes, switches, and thermostats;
- Polychlorinated Biphenyl (PCB)-containing caulking, putties, gaskets, and membranes;
- Suspected high-intensity discharge (HID) lamps; and
- Suspected PCB-containing fluorescent light ballasts and transformers.

Objective:

The objective of the HBMS was to provide information regarding the presence of lead-containing coatings, PCB-containing light ballasts, PCB-containing caulking, and mercury-containing sources, and the presence, location, and quantity of ACMs, ACCMs, and assumed ACMs, and for the purposes of decommissioning planning.

Summarized HBMS Results:

Two hundred and fifty-nine bulk samples of suspect asbestos-containing materials were collected and analyzed using Polarized Light Microscopy (PLM) during this assessment. Eighteen materials (HSAs) were found to contain detectable asbestos above 0.1%, twenty-one materials were assumed to contain asbestos, and seven materials were visually assessed and determined to be non-suspect. Per the EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements and the analytical results, six sample layers were further analyzed using PLM Point Count Method.

In addition, three concrete bulk samples were collected and analyzed using PLM California Air Resources Board (CARB) 435 method to determine the content of Naturally Occurring Asbestos (NOA). No concrete samples were found to contain detectable NOA above the PLM point count threshold of 0.25%.

Thirty paint chip samples were collected and analyzed for total lead content using Atomic Absorption Spectrophotometry; twenty-one of the samples were found to contain reportable levels of lead.

Mercury-containing fluorescent light tubes, HID lamps, and magnetic light ballasts labeled "No-PCBs" were observed during the assessment. The small pole mounted transformers were noted to contain no-PCB labels. No suspect PCB-containing caulking was observed during the inspection.

See Section 4.5: Tables for tabulated HBMS Results.



Chapter 1: Introduction

1. INTRODUCTION

1.1 Project Description

AECOM Technical Services (AECOM) was retained by KRRC to conduct an HBMS of the Copco No. 2 Development and support facilities. This report includes the findings of the HBMS conducted at the Copco No. 2 Development and associated support buildings and structures on September 11, 12, and 18, 2018 and December 19, 2018. The Copco No. 2 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp.

1.2 Survey Limitations

The conclusions of this report are AECOM's professional opinions, based solely upon visual site observations and interpretations of laboratory analyses, as described in this report. The opinions presented herein apply to the site conditions existing at the time of AECOM's assessment and interpretation of current regulations pertaining to asbestos, lead-containing paint, PCB-containing ballasts and building materials, and mercury-containing components. Therefore, AECOM's opinions and recommendations may not apply to future conditions that may exist at the site which we have not had the opportunity to evaluate. All applicable state, federal, and local regulations should always be verified prior to any work that will disturb materials containing asbestos and other hazardous building materials.

AECOM has performed the services set forth in the Scope of Work in accordance with generally accepted industrial hygiene practices in the same or similar localities, related to the nature of the work accomplished, at the time the services were performed.

Additional sampling needs to be conducted of structures not assessed and inaccessible areas prior to demolition. Suspect regulated building materials throughout the Copco No. 2 Development and support facilities that are not included in this regulated building materials assessment are assumed to be asbestos-containing unless they are sampled by a Certified Asbestos Consultant (CAC) or a Certified Site Surveillance Technician (CSST) and analyzed by a State of California Environmental Laboratory Accreditation (ELAP)-licensed laboratory that is also a National Voluntary Laboratory Accreditation Program (NVLAP)-accredited laboratory to confirm the presence of asbestos prior to the disturbing such materials.

The regulated building materials and conditions presented in this report represent those observed on the dates we conducted the sampling. This sampling is intended for the exclusive use of KRRC for specific application to the proposed decommissioning. This assessment is not intended to replace construction or demolition plans, specifications, or bidding documents. This report is not meant to represent a legal opinion.

This report was prepared pursuant to an agreement between KRRC and AECOM and is for the exclusive use of KRRC. No other party is entitled to rely on the conclusions, observations, specifications, or data contained

herein without first obtaining AECOM's written consent and provided any such party signs an AECOM-generated Reliance Letter. A third party's signing of the AECOM Reliance Letter and AECOM's written consent are conditions precedent to any additional use or reliance on this report.

The passage of time may result in changes in technology, economic conditions, site variations, or regulatory provisions, which would render the report inaccurate. Reliance on this report after the date of issuance as an accurate representation of current site conditions shall be at the user's sole risk.



Chapter 2: Scope of Services

2. SCOPE OF SERVICES

2.1 Asbestos Assessment

Mr. David Simon, a California Certified Asbestos Consultant (CAC), (Certification 92-005, expiration date: 6/24/2019) performed the sampling at the Copco No. 2 Development and support buildings on September 11, 12, and 18, 2018 and on December 19, 2018. Ms. Shannon MacKay, an Asbestos Hazard Emergency Response Act (AHERA)-accredited building inspector (Certification CA-015-06, expiration date: 1/15/2020), assisted in documenting the inspection, but did not perform sampling. Copies of their certifications are included in Appendix D.

The following materials/areas were inaccessible during the site work and should be assumed to contain asbestos until such time as the area becomes accessible and is sampled by a CAC or CSST and analyzed by a State of California ELAP-licensed NVLAP-accredited laboratory:

- Switchyard
- Controls Building (inside Switchyard)
- Power Distribution Center Building (inside Switchyard)
- Residence 1
- Residence 2
- Residence 7
- Residence 8

2.1.1 Methodology

This assessment was conducted using a modified protocol adapted from AHERA. The protocol is as follows:

- Identify suspect asbestos-containing materials.
- Group materials into homogeneous sampling areas/materials.
- Quantify each homogeneous material and collect representative samples. The number of samples collected of miscellaneous materials was determined by the inspector.

- Samples of each material were taken to the substrate, ensuring that all components and layers of the material were included.
- Sample locations are referenced on the field data forms according to sample number.
- Sampling was performed by a CAC or CSST, and the use of proper protective equipment and procedures was followed.

2.1.2 Naturally Occurring Asbestos

For informational purposes, AECOM collected samples of concrete and submitted them to EMSL Laboratories to analyze for NOA. The sampling was conducted as a preliminary screen for NOA. Sampling was conducted discretely in areas where damage to concrete was already present. Future sampling for NOA may be necessary to fulfill California State regulatory requirements for NOA, and should be conducted when more destructive sampling of the concrete is possible.

2.2 Sampling Procedures

This sampling was conducted using the following procedures:

1. Spread the plastic drop cloth (if needed) and set up other equipment, e.g., ladder.
2. Don protective equipment (respirator and protective clothing if needed).
3. Label sample container with its identification number and record number. Record sample location and type of material sampled on a sampling data form.
4. Moisten area where sample is to be extracted (spray the immediate area with water).
5. Extract sample using a clean knife, drill capsule, or cork boring tool to cut out or scrape off approximately one tablespoon of the material. Penetrate all layers of material.
6. Place sample in a container and tightly seal it.
7. Wipe the exterior of the container with a wet wipe to remove any material that may have adhered to it during sampling.
8. Clean tools with wet wipes and wet mop; or vacuum area with HEPA vacuum to clean all debris.
9. Discard protective clothing, wet wipes and rags, cartridge filters, and drop cloth in a labeled plastic waste bag.

AECOM inspected the buildings and structures for suspect ACM including thermal systems insulation, surfacing materials, and miscellaneous materials (e.g., floor tiles, ceiling tiles). When materials suspected of containing asbestos were identified, AECOM's inspectors collected representative bulk samples from each Homogeneous Sampling Area using the protocol presented in the Table 2-1:

Table 2-1 Suspect ACM Sampling Protocol

Suspect ACM Sampling Protocol		
Homogeneous Sampling Area (HSA) Category	HSA Size	Minimum Number of Samples
Surfacing Materials	1,000 SF or Less	3
	1,001-5,000 SF	5
	>5,000 SF	7 or more
Thermal System Insulation (TSI)	No Stipulation	3 of each type of TSI. (Must also sample all repair patches)
Miscellaneous Materials	No Stipulation	3 samples of each miscellaneous material

A Homogeneous Sampling Area is defined to include surfacing materials, thermal systems insulations, and miscellaneous materials, which are uniform in color, texture, construction and application date, and general appearance.

Additional suspect ACMs may be present in inaccessible or concealed spaces. These spaces include, but are not limited to, areas not assessed, areas not accessible at the time of the assessment, fire doors, electrical systems, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components, beneath foundation pads, etc. If future maintenance, renovation, and/or demolition activities make these areas accessible, AECOM recommends that a thorough assessment of these spaces be conducted at that time to identify and confirm the presence or absence of additional suspect ACMs. Until then, all such unidentified materials must be treated as assumed ACMs in accordance with applicable federal, state, and local regulations.

AECOM did not sample suspect ACM in the following circumstances:

- The AECOM inspector could not safely access the material for sampling;
- The residence was still occupied;
- The AECOM inspector concluded that the materials were inaccessible for sampling; or
- The AECOM inspector determined that destructive sampling would compromise the integrity of the material and/or the structure.

2.3 Sampling and Analysis

EPA NESHAP (40 CFR 61, Subparts A and M) also has requirements related to the assessment of suspect ACM in buildings. NESHAP defines a “friable” material to be a material that when dry, can be crumbled, pulverized, or reduced to powder with hand pressure or by the forces expected to act on the material in the course of demolition or renovation activities. AECOM applied this NESHAP definition of friable for the purposes of determining which analytical method to use to quantify the asbestos content of a specific material.

The collected samples of suspect ACM were analyzed by NVL Laboratories, Inc. for asbestos content using the PLM visual estimation method and the PLM Point Counting Method. NVL Laboratories, Inc. is accredited for these asbestos analytical methods by the State of California ELAP and the NVLAP. Appendix D contains NVL Laboratories, Inc.’s certificate of laboratory accreditation and licensure. The collected samples of suspect NOA in concrete were analyzed by EMSL Analytical, Inc. for asbestos content using PLM CARB Method 435. EMSL Analytical, Inc. is accredited for these asbestos analytical methods by the State of California ELAP. Appendix D contains EMSL Analytical, Inc.’s certificate of laboratory accreditation and licensure.

Polarized Light Microscopy (PLM)

The PLM method is a visual estimation of the asbestos content of a sample. The PLM analysis was performed by NVL Laboratories, Inc. following the United States Environmental Protection Agency’s (USEPA) PLM method EPA-600R/M4-82-020 for determining asbestos content in bulk building materials.

Polarized Light Microscopy Point Count (PLM Point Count)

According to the NESHAP, when the asbestos content of a friable material is visually estimated by the PLM visual technique to be detectable but less than 10%, the inspector may either (1) assume that the amount is greater than 0.1% and treat the material as ACCM or (2) conduct a second analysis, the PLM Point Count Method EPA/600-R93/116, to verify the percentage of asbestos in the material.

Per NESHAP, AECOM used the results of the PLM visual method analyses for friable materials to determine whether additional laboratory analysis was warranted (i.e., PLM Point Count), or whether the material would be treated as ACCM. Based on PLM analytical results, six samples were further analyzed by PLM Point Count analysis (See Appendix C).

If the results obtained by PLM Point Count Method and the PLM visual estimation method are different, the PLM Point Count result is used. When no asbestos is detected by the first PLM visual method, the additional technique using PLM Point Count Method is not required. The analytical results are reported in percent asbestos as derived from a 1000 point counting technique, which yields a detection limit of 0.1%.

Naturally Occurring Asbestos (NOA)

Asbestos fibers may be released from serpentine rock formations. The CARB 435 method is used to determine the asbestos content of serpentine aggregate, or NOA, in concrete, storage piles, on conveyor belts, and on surfaces such as road beds, road shoulders, and parking lots. Samples are crushed using a mill to produce a material of which the majority is less than 200 Tyler mesh (0.75 microns). CARB defines NOA as having >0.25% asbestos by PLM point counting. The analytical results are reported in percent asbestos as derived from a 400 PLM point counting technique, which yields a detection limit of 0.25%.

2.4 Lead Assessment

2.4.1 Sampling Methodology

Homogeneous painted surfaces were defined by substrate, application, and color. The paint chip samples were collected to the substrate to ensure that all layers present on the substrate were included in the laboratory analysis. The samples were collected and stored in a heavy-duty, self-sealing plastic bag and delivered to NVL Laboratories in Seattle, Washington. The samples were analyzed via Atomic Absorption Spectrophotometry in accordance with Method EPA 7000B. NVL Laboratories in Seattle, Washington is accredited by American Industrial Hygiene Association (AIHA) for lead analysis and by the California Environmental Laboratory Accreditation Program (ELAP).

Lead paint chip samples were collected from industrial and operational buildings or from former residences that will no longer be occupied; all structures assessed are planned for decommissioning.

2.5 Other Regulated Building Materials

2.5.1 Universal Waste Inventory Methodology

An inventory of fluorescent light tubes, HID lamps, mercury-containing sources, and potential PCB-containing ballasts was conducted in accessible Project Areas.

Where fluorescent light fixtures were accessible, the ballast covers were removed, and the ballast labels were visually examined. Where fluorescent light fixtures could not be visually examined, the number of potential PCB-containing ballasts in each fixture was estimated based on the following assumptions:

- Each single light tube fluorescent fixture contains one ballast;
- Each HID lamp contains one ballast and one mercury bulb;
- Each multiple light tube fluorescent fixture contains one ballast for every pair of light tubes; and
- All light ballasts are assumed to contain PCBs unless the ballasts are labeled as not containing PCBs or are determined to be electronic.

Fluorescent light tubes, HID lamps, fluorescent light fixtures and PCB-containing transformers were identified in the buildings in the quantities listed in Table 4-5.

2.5.2 PCB-Containing Caulking

Suspected PCB-containing caulking was not observed during the course of the inspection.

A decorative banner with a wavy, ribbon-like shape. It features a dark blue outer layer and a lighter blue inner layer, separated by a thin white line. The banner curves upwards at both ends.

Chapter 3: Site Description

3. SITE DESCRIPTION

3.1 Copco No. 2 Development

AECOM Technical Services (AECOM) was retained by Klamath River Renewal Corporation (KRRC) to conduct a Hazardous Building Materials Survey (HBMS) of the Copco No. 2 Development. This report includes the findings of the HBMS conducted at the Copco No. 2 Development and associated support buildings and structures on September 11, 12, and 18, 2018 and December 19, 2018. The Copco No. 2 Development is located near Hornbrook, California, and is a remote secured industrial facility owned and operated by PacifiCorp.

The Copco No. 2 Development and original supporting structures were completed in 1925 and are located approximately 0.25 miles downstream of Copco No. 1 Dam between RM 201.3 and RM 199.7 in Siskiyou County, California. The Copco No. 2 address is 19305 Daggett Road, Hornbrook, California 96044. The reservoir created by Copco No. 2 Dam is approximately 0.3 mile long (unnamed). The Copco No. 2 powerhouse is located approximately 1.5 miles downstream of the Copco No. 2 Dam. Main features at Copco No. 2 include the reservoir, diversion dam, embankment section, gated spillway, water conveyance system, penstocks, former and current residences, a former school, a former cookhouse, storage sheds, a former bunkhouse, and a powerhouse.

South of the powerhouse are the Copco No. 2 East and West Villages. The East Village is the larger of the two and contains former and current residences as well as maintenance and storage facilities for the operation of the powerhouse and associated facilities. The West Village is comprised of only residences and a former school which is currently operated as a meeting center.

3.1.1 Description of Copco No. 2 Development Structures

The following Copco No. 2 Development support structures were assessed during the HBMS:

Above Ground Storage Tanks (CC2AST)

A 500 gallon diesel AST and a 1,000 gallon gasoline AST and associated dispenser pumps are located adjacent to the Hazardous Material Storage Building. Both tanks are double walled ASTs and located on concrete pads.

Control Center Building (CC2CCB)

The Control Center Building is an approximately 2,000 square foot office building that is located approximately 50 feet south of the Powerhouse and is the main control center for Copco No. 1 and Copco No. 2 Facilities. The exterior of the building consists of metal siding and roofing. The interior of the building consists of a control room, a restroom, a small break room, and a storage closet. One room was inaccessible

during the inspection. The interior finishes consist of carpeting, vinyl and ceramic flooring, and metal walls and ceilings.

Controls Building (CC2CB)

This Controls Building is an approximately 600 square feet wood building with concrete flooring that is located within the fenced switchyard. The switchyard was not accessed during the HBMS for safety reasons.

Copco 2 Diversion Dam and Headgate (CC2DD)

The Copco 2 Diversion Dam and Headgate is located downstream of the Copco 1 Powerhouse. The dam stretches across the river with a catwalk at the top nad with metal handrails. The headgate is on the far side of the dam from the Powerhouse and is constructed of concrete.

Electrical Transformers (CC2ET)

Two electrical transformers are located north of the maintenance building, located on cement pads with no signs of leakage.

Emergency Spill Equipment Shed (CC2ES)

The Emergency Spill Equipment Shed located adjacent to the Powerhouse and is approximately 100 square feet. The shed is a single-story structure with slab on grade concrete foundation, engineered wood siding, and asphaltic shingle roofing. The interior of the shed is unfinished wood. The structure is currently being used as storage for emergency spill purposes.

Former Bunkhouse (CC2FBH)

The Former Bunkhouse is located in the East Village and has not been occupied for several years. This single-story wooden framed structure is approximately 3,200 square feet with a slab on grade concrete foundation and contains two lodging wings with twelve bunk rooms, a shower/bathroom, and a central front room with a small kitchen area. The interior finishes consist of carpeting, vinyl flooring, wood walls and tongue-and-groove tiled ceilings.

Former Cookhouse (CC2FCH)

The Former Cookhouse is located in the East Village and is currently being used for miscellaneous storage. This two-story wooden framed structure is approximately 1,200 square feet and has a crawlspace foundation supported with cinder blocks. The exterior of the building consists of metal siding and roofing. The building's first floor contains a front room, an office, a bathroom, and a former kitchen and pantry area. The second floor contains an unfinished attic space. Interior finishes include vinyl flooring, and wood flooring, walls, and ceiling.

Former School (CC2FS)

The Former School is approximately 1,950 square feet, is located in the West Village, and is currently being used as a meeting center. This wooden framed structure has a slab on grade concrete foundation and was constructed in 1965. The building contains a large meeting room, storage closets, kitchen and bathrooms. The exterior consists of wood siding and metal roofing. Interior finishes consist of carpeting, vinyl flooring, carpeted walls, gypsum wallboard, and tongue-and-groove ceiling tiles.

Fuel Shed (CC2FSH)

The Fuel Shed is a metal container box that is approximately 72 square feet and is located adjacent to the Maintenance Storage Building. The container is currently used for fuel storage. The bottom of the shed is grated to allow the accumulation of spills into a lower interior containment system.

Groundwater Well (CC2GW)

The Groundwater Well is approximately 50 square feet and is located near the front entrance of the Copco No. 2 gated entrance along Dagget Road in a fenced enclosure. The building exterior consists of metal siding and roofing. The interior of the building is unfinished.

Hazardous Waste Storage (CC2HWS)

The Hazardous Waste Storage building is approximately 1,000 square feet and is a wooden structure with slab on grade concrete flooring that is located near the center of East Village. The exterior of the building consists of engineered wood siding and asphaltic shingle roofing. The interior of the building is unfinished concrete and wood.

Maintenance Building (CC2MB)

The Maintenance Building is approximately 5,000 square feet and is located southwest of the Powerhouse. Five metal roll-up doors are located on the southeast side of the building. The exterior of the building consists of metal siding and roofing. The interior of the building contains large warehouse/shop areas and a small office area with a breakroom and bathroom. The interior finishes include gypsum walls, unfinished walls with fiberglass insulation, vinyl floor tiles, and unfinished concrete.

Two electrical transformers were located north of the Maintenance Building and both appeared to be in good condition. Both transformers are located on cement pads with no signs of leakage.

Maintenance Storage Building (CC2MSB)

The Maintenance Storage Building is approximately 900 square feet and is a wooden slab on grade structure that is located in the East Village. It is currently being used for storage. The exterior of the building consists of engineered wood siding and asphaltic shingle roofing. The interior of the building is unfinished concrete and wood.

Penstocks (CC2PS)

The Penstocks are located east of the Powerhouse and are approximately 10 feet to 14 feet in diameter. They extend up the hill on the west end of the Powerhouse.

Power Distribution Center Building (CC2PDCB)

The Power Distribution Center Building is a pre-fabricated building with wooden flooring that is approximately 1,000 square feet and is located within the fenced switchyard. The interior of the building was not accessed during the HBMS due to safety concerns. Equipment reported to be located in the building includes generator breakers, relay packages, transformer breakers, and bus tie breakers.

Powerhouse (CC2PH)

The Copco No. 2 Powerhouse is a three-story structure that is approximately 5,500 square feet and is located 1.5 miles downstream of Copco No. 2 Dam on the south bank of the river. The Powerhouse has a main ground level floor, a smaller upper second level and a lower basement level.

The main ground floor level contains the upper portions of two vertical-shaft turbines, an electrical room, and shop and storage rooms. The lower level contains the lower portions of the two turbines, intake penstocks for the two turbines, and miscellaneous piping and electrical conduits. The small upper second level is a loft-type area with an office space. The exterior consists of concrete siding. The roof was inaccessible during the HBMS. Interior finishes consist of painted concrete throughout.

Residence 1 (CC2R1)

Residence 1 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed.

Residence 2 (CC2R2)

Residence 2 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed.

Residence 3 (CC2R3)

Residence 3 is a former residence that is located in the East Village and is approximately 1,120 square feet with a detached garage. It is currently not occupied and not in use. The exterior of both the residence and garage buildings consists of wood siding and asphaltic shingle roofing. The interior of the residence contains a front living room, a bathroom, bedrooms, a kitchen, and a mud room. Interior finishes consists of tack-down carpeting, vinyl floor sheeting, and gypsum wallboard and ceilings. A detached garage with wood siding and asphaltic shingle roofing is located to the rear of the residence.

Residence 4 (CC2R4)

Residence 4 is a former residence that is located in the East Village and is approximately 2,000 square feet. It is currently not occupied and is used temporarily for storage. The exterior consists of wood siding and cementitious shingle roofing. The interior contains a front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consists of tack-down carpeting, wood plank floor, vinyl floor sheeting, and gypsum wallboard and ceilings.

Residence 5 (CC2R5)

Residence 5 is a former residence that is located in the East Village and is approximately 2,000 square feet. It is currently not occupied and is used temporarily for storage and exercise equipment. The exterior consists of wood siding and cementitious shingle roofing. The interior contains a front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consists of tack-down carpeting, wood plank floor, vinyl floor sheeting, and gypsum wallboard and ceilings.

Residence 6 (CC2R6)

Residence 6 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. The building was unoccupied during the inspection, but is reportedly used for temporary housing. The interior contains a front living room, a bathroom, bedrooms, a kitchen, a mud room, and a garage. Interior finishes consist of gypsum wallboard and ceilings, vinyl floor sheeting, and carpeting. The structure was assessed for asbestos but not for lead paint.

Residence 7 (CC2R7)

Residence 7 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed.

Residence 8 (Residence 8)

Residence 8 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the HBMS and the interior was not accessed.

Right Abutment Retaining Wall and Earth Embankment (CC2RARW)

The right abutment retaining wall and earth embankment are located on the north end of the Copco 2 Dam.

Transformers (CC2TR)

The Station Service Power Gang Operated Switch is located on a small bluff about 100 feet north of the Powerhouse.

Wood Stave Penstock (CC2WSP)

The 1,313 feet long and 16 foot diameter Wood-Stave Penstock is composed of narrow beveled wood staves banded with steel hoops. The penstock is further supported by wooden laths on either side. The penstock did not appear to be painted.

A decorative banner with a wavy, ribbon-like shape. It features a light blue upper section and a darker blue lower section, separated by a thin white line. The banner curves upwards from the left and downwards on the right.

Chapter 4: Conclusion and Recommendations

4. CONCLUSIONS AND RECOMMENDATIONS

On September 11, 12, and 18, 2018 and December 19, 2018, AECOM conducted a Hazardous Building Materials Survey of the Copco No. 2 Development located in Hornbrook, California. AECOM assessed the site buildings for a variety of regulated building materials that would require removal or special handling during decommissioning and demolition. Section 4.5: Tables includes the tabulated results of the survey. The following are AECOM's general recommendations related to the HBMS findings:

- Plans and specifications should be developed by an appropriately qualified professional (e.g., CAC) to outline the planned scope of work, phasing, training and certification requirements, policies and procedures for the proper handling, removal packaging, disposal/recycling, and transportation of the materials.
- The findings of this report should be communicated to contractors planning to work on or bid on work at the site,
- Additional material-specific recommendations as listed below.

4.1 Asbestos

Two hundred and fifty-nine bulk samples of suspect asbestos-containing materials were collected and analyzed using Polarized Light Microscopy (PLM) during this assessment. Eighteen materials (HSAs) were found to contain detectable asbestos above 0.1%, twenty-one materials were assumed to contain asbestos, and seven materials were visually assessed and determined to be non-suspect. Per the EPA NESHAP requirements and the analytical results, six sample layers were further analyzed using PLM Point Count Method.

In addition, three concrete bulk samples were collected and analyzed using PLM CARB 435 method to determine the content of NOA. No concrete samples were found to contain detectable NOA above the PLM point count threshold of 0.25%.

The results of the analyses are presented in Section 4.5, Tables 4-1, 4-2, and 4-3. Appendix C contains the laboratory reports of analytical results for each discrete sample.

Additional suspect ACMs may be present in inaccessible or concealed spaces. These spaces include, but are not limited to; below grade exterior materials, electrical systems, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components, beneath foundation pads, etc. If future demolition activities make these areas accessible, AECOM recommends that a thorough assessment of

these spaces be conducted at that time to identify and confirm the presence or absence of additional ACMs and ACCMs. Until then, all such unidentified materials must be treated as assumed ACMs in accordance with applicable federal, state, and local regulations.

If the analytical results indicate that all the samples collected per HSA do not contain asbestos, then the HSA (material) is considered a non-ACM. If the analytical results of one or more of the samples collected per HSA indicate that asbestos is present in quantities of greater than 0.1% asbestos as defined by Cal/OSHA, all of the HSA (material) is considered to be an ACM or ACCM regardless of any other analytical results.

Any material that contains greater than 0.1% asbestos is considered an ACCM and must be handled according to Cal/OSHA regulations. Any material greater than one percent asbestos is considered an ACM and must be handled according to EPA regulations, and applicable state and local regulations. The EPA NESHAP regulations (40 CFR 61, Subparts A and M) have a requirement related to assessment of suspect ACM in buildings. When the asbestos content of a friable material is visually estimated by PLM to be detectable but less than ten percent, your firm may elect to (1) assume the amount is greater than one percent and treat the material as asbestos-containing or (2) require verification of the amount by the PLM point counting technique. If the results obtained by point counting and visual estimation are different, the point count result must be used. When no asbestos is detected by PLM, point counting is not required.

4.1.1 Asbestos Regulations

Asbestos-related work must be performed in compliance with local, federal, and state regulations including Cal/OSHA, the Siskiyou County Air Pollution Control District, EPA NESHAP, and relevant federal, state and local regulations pertaining to handling of asbestos.

The EPA NESHAP regulations (Renovation and Demolition NESHAP 40 CFR 61, Subparts A and M) for asbestos apply to certain demolition and renovation projects in facilities containing ACM and/or assumed ACM. The NESHAP rule usually requires that all friable ACM and some categories of non-friable ACM be removed before a building is demolished, and may require localized removal prior to demolition. The following NESHAP definitions of ACM are very important in interpreting which NESHAP requirements may apply to your building:

- Friable asbestos-containing material: any material containing more than 1 percent asbestos that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable asbestos-containing material: asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Category II non-friable asbestos-containing material: any material excluding Category I non-friable ACM, containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Regulated asbestos-containing material (RACM): (1) friable ACM, (2) Category I non-friable ACM that has become friable (3) Category I non-friable ACM that will be or has been subjected to sanding,

grinding, cutting, or abrading, or (4) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the materials in the course of demolition or renovation operations regulated by NESHAP.

NESHAP also requires that the local air district be notified before certain renovations or demolition impacting RACM begin. When ACCM is removed or disturbed during demolition or renovation, the Cal/OSHA regulations also apply. The NESHAP regulations should be studied in detail for a thorough delineation of these and other requirements.

Cal/OSHA regulates employee exposure to asbestos (T8, CCR 1529). The Cal/OSHA asbestos standards mandate a permissible exposure limit (PEL) of 0.1 fibers (equal to or longer than 5 micrometers) per cubic centimeter of air (fibers/cc) determined as an 8-hour, time-weighted average (TWA) and an excursion limit of 1 fiber/cc as a 30-minute TWA.

Also, for asbestos removal or renovation involving ACM, the Cal/OSHA Asbestos Construction Standard (T8, CCR 1529) requires that specific procedures be followed, including enclosure of the work area to control asbestos exposure of building occupants, as well as, employees involved in abatement or renovation activities.

The following are selected Cal/OSHA definitions regarding asbestos work:

- **Class I asbestos work** means activities involving the removal of TSI and surfacing ACM and PACM.
- **Class II asbestos work** means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- **Class III asbestos work** means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.
- **Class IV asbestos work** means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.
- **Intact** means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that asbestos is no longer likely to be bound with its matrix.

AECOM identified materials that were assumed to contain asbestos, but were not assessed because the inspector determined them to be ACM, for the safety of the inspector and to preserve building system integrity.

During demolition activities, inaccessible materials may be uncovered which were not identified or sampled during this assessment. Personnel in charge of demolition should be alerted to note materials uncovered during these activities which were not identified in this report. The following are AECOM's recommendations:

- If the buildings are scheduled for abatement and demolition (AECOM's recommendation), an abatement project design manual should be prepared with technical specifications and abatement plans. The design must be prepared by a CAC.

- The results of this sampling should be communicated to any Contractors working in the Project Areas and a copy of the assessment report must be on-site during demolition activities.
- Abatement work must be performed by CA-licensed asbestos abatement contractor with trained asbestos workers and supervisors.
- Any concealed building materials discovered during demolition activities, which are suspected to contain asbestos, should be sampled by a CSST or CAC and analyzed by a NVLAP- and CA ELAP-accredited laboratory to confirm the presence of asbestos prior to disturbing such materials or be assumed to be ACM.
- If the facilities assessed during the HBMS are not scheduled for demolition, AECOM recommends the development of an O&M Plan by a CAC.

4.2 Lead

Thirty paint chip samples were collected and analyzed for total lead content; twenty-one of the paint chip samples were found to contain detectable levels of lead. The results of the analyses are presented in Section 4.5 Table 4-4. Appendix C contains the laboratory reports of analytical results for each discrete sample.

Cal/OSHA requires worker training, worker protection, and exposure assessments be conducted during operations that may disturb the lead-containing paint in such a way that the airborne exposure may reach or exceed the Action Level of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or the Permissible Exposure Limit of 50 $\mu\text{g}/\text{cm}^3$. The worker protection requirements of Cal/OSHA 1532.1 "Lead" apply.

4.3 Other Regulated Building Materials

Mercury-containing fluorescent light tubes and HID lamps were observed during the assessment. In the switchyard, the yellow glass portion of the high voltage transformer bushings may contain PCBs in the oil.

Fluorescent light tubes, switches, and thermostats may contain mercury. Fluorescent light ballasts, transformer oil, and HID lamp ballasts may contain PCBs. PCB wastes are regulated by Department of Toxic Substance Control Act (DTSC) Title 22 CCR 66261.24, Resource Conservation Recovery Act (RCRA) Title 40 CFR 761, and Toxic Substance Control Act (TSCA) 15 USC 2695. DTSC has classified PCBs as a hazardous waste when the concentrations are equal to or greater than 5 mg/l in liquids or when the total concentrations are equal to or greater than 50 mg/kg in non-liquids (Title 22, CCR, 66261.24). If the PCB waste is greater than 50 mg/l, then it is also to be managed under the RCRA and TSCA requirements. Employers must inform their employees of mercury and PCB hazards in accordance with Cal/OSHA.

Light ballasts in representative locations were visually assessed where possible. All light ballasts observed during the course of the HBMS were electronic ballasts or magnetic ballasts labeled "No PCBs". During the course of decommissioning or demolition activities, magnetic light ballasts may be discovered that are not labeled "No PCBs" and should be disposed of per DTSC requirements.

Fluorescent light tubes must be removed and recycled or disposed of as hazardous waste or universal waste prior to demolition as per 22 CFR 66261.50 and 66273.8.

The results of the Universal Waste Inventory are presented in Section 4.5 Table 4-5.

4.4 Treated Wood

Wood treated with creosote was observed in the following locations:

- Power poles throughout Copco No. 2 Development
- Wood stave penstock

4.5 Tables

Table 4-1: Confirmed ACMs, ACCMs, and Assumed ACMs lists the HSAs (materials) that were tested and confirmed to contain greater than 0.1 percent asbestos as well as the HSAs that could not be tested and are assumed to contain asbestos. NESHAP categories and approximate quantities of each material are identified, when possible.

Table 4-2: Asbestos Sample Results by Layer lists the tabulated analytical results for each discrete asbestos sample, listed by building then by HSA. Confirmed ACMs, ACCMs and Non-ACMs are included.

Table 4-3: Visually Negative Materials lists the materials that were visually assessed and determined to be non-suspect.

Table 4-4: Lead Paint Sample Results lists the tabulated analytical results for each discrete lead paint sample.

Table 4-5: Universal Waste Inventory presents the tabulated approximate quantities of fluorescent light tubes, suspect PCB containing light ballasts, non-PCB containing magnetic light ballasts, HID Lamps, and PCB-containing transformers.

Appendix A contains figures of structures, sampling locations, and asbestos-containing material locations.

Appendix B contains HSA Photologs, by building, then by HSA.

Appendix C contains the laboratory reports of analytical results for each discrete sample.

Appendix D contains personnel and laboratory certifications.

Table 4-1 Confirmed ACMs, ACCMs, and Assumed ACMs

Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Control Center Building	CC2CCB-06	Assumed asbestos-containing grouts and mastics associated with ceramic tiles	Flooring in bathroom	Misc.	NF	Cat II	Assumed	30 SF
Former Bunkhouse	CC2FBH-02	9"x9" off-white vinyl floor tile with gray and tan streak pattern and black asphaltic mastic	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	NF	Cat II	Positive	~1,675 SF
Former Bunkhouse	CC2FBH-10	Assumed asbestos-containing silver woven fiberglass electrical wire insulation	Throughout attic	Misc.	NF	Cat II	Assumed	Not quantified
Former Bunkhouse	CC2FBH-12	Assumed asbestos-containing roofing paper	Underneath asphaltic shingles roofing (inaccessible during inspection)	Misc.	—	—	Assumed	~2,000 SF
Former Bunkhouse	CC2FBH-13	Brown/gray cementitious material	Scattered throughout exterior in landscaping rock cover	Misc.	NF	Cat II	Positive	Not quantified
Former Bunkhouse	CC2FBH-14	Assumed asbestos-containing vapor barrier paper	Throughout exterior underneath wood siding	Misc.	—	—	Assumed	~2,040 SF
Former School	CC2FS-02	Gray sink undercoating	Kitchen sink	Misc.	NF	Cat II	Positive	1 EA
Former School	CC2FS-04	Assumed-asbestos containing grouts and mastics associated with 4"x4" white ceramic counter tile	Counter between kitchen and conference room	Misc.	NF	Cat II	Assumed	~32 SF
Former School	CC2FS-06	Off-white joint compound and gypsum wallboard	Walls throughout all rooms	Misc.	NF	Cat II	Positive	~5,050 SF
Former School	CC2FS-09	Assumed asbestos-containing roofing paper	Underneath corrugated metal roof	Misc.	—	—	Assumed	~2,000 SF

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, Misc.: Miscellaneous material per AHERA, SF: Square Feet, EA: Each; Cat I: Category I per NESHAPS, Cat II: Category II per NESHAPS, RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Table 1: Confirmed ACMs, ACCMs, and Assumed ACMs								
Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Former School	CC2FS-10	Assumed asbestos-containing vapor barrier paper	Throughout exterior, underneath wood siding	Misc.	–	–	Assumed	~1,800 SF
Former School	CC2FS-11	Assumed asbestos-containing mastic behind plastic wall panels	Walls throughout restrooms	Misc.	NF	Cat II	Assumed	2 EA
Former School	CC2FS-12	Assumed asbestos-containing mirror mastic	Walls throughout restrooms	Misc.	NF	Cat II	Assumed	~200 SF
Former School	CC2FS-13	Assumed asbestos-containing metal-clad fire door insulation	Entrance door to building	Misc.	NF	Cat II	Assumed	1 EA
Former School	CC2FS-14	Assumed asbestos-containing wood-clad fire door insulation	Janitor closet doors	Misc.	NF	Cat II	Assumed	2 EA
Maintenance Building	CC2MB-08	Assumed asbestos-containing metal-clad fire door insulation	Doors throughout	Misc.	NF	Cat II	Assumed	3 EA
Maintenance Storage Building	CC2MSB-02	Assumed asbestos-containing vapor barrier paper	Throughout exterior, underneath wood siding	Misc.	NF	Cat II	Assumed	~600 SF
Powerhouse	CC1PH-04	Assumed asbestos-containing wicket gate	Associated with turbines on main level of Powerhouse, inaccessible unless turbines are removed	Misc.	–	–	Assumed	2 EA
Powerhouse	CC1PH-05	Assumed asbestos-containing metal clad fire door insulation	Throughout main floor and basement	Misc.	NF	Cat II	Assumed	7 EA
Residence 3	CC2R3-01	Off-white vinyl floor sheeting with gray mosaic pattern with paper backing and mastic	Flooring in mud room, pantry, bathroom, and kitchen	Misc.	NF	Cat I	Positive	~260 SF

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, Misc.: Miscellaneous material per AHERA, SF: Square Feet, EA: Each; Cat I: Category I per NESHAPS, Cat II: Category II per NESHAPS, RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Table 1: Confirmed ACMs, ACCMs, and Assumed ACMs								
Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Residence 3	CC2R3-06	Black mastic	Behind wood wall paneling in dining room and living room	Misc.	NF	Cat II	Positive	~345 SF
Residence 3	CC2R3-08	Assumed asbestos-containing gray chimney grout	Associated with a walled-in chimney, inaccessible during inspection	Misc.	NF	Cat II	Assumed	1 EA
Residence 3	CC2R3-14	Assumed asbestos-containing electrical panel backing in older electrical panels	Interior of shed	Misc.	NF	Cat II	Assumed	3 EA
Residence 4	CC2R4-02	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	F	RACM	Positive	~1,400 SF
Residence 4	CC2R4-03	Off-white joint compound and gypsum wallboard	Walls throughout all rooms	Misc.	NF	Cat II	Positive	~4,360 SF
Residence 4	CC2R4-05	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	F	RACM	Positive	~3,600 SF
Residence 4	CC2R4-08	Cement asbestos board fireplace panel	Living room wall	Misc.	NF	Cat II	Positive	8 SF
Residence 4	CC2R4-10	Cement asbestos board roof shingles	Roofing throughout house	Misc.	NF	Cat II	Positive	~2,550 SF
Residence 5	CC2R5-01	Cement asbestos board roof shingles	Roofing throughout house	Misc.	NF	Cat II	Positive	~2,550 SF
Residence 5	CC2R5-04	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	F	RACM	Positive	~1,400 SF
Residence 5	CC2R5-05	White joint compound and gypsum wallboard with paper	Walls throughout all rooms	Misc.	NF	Cat II	Positive	~1,400 SF
Residence 5	CC2R5-10	Thick drywall mud	On door jamb between living room and hallway	Surf.	F	RACM	Positive	6 SF
Residence 5	CC2R5-13	White spray-applied wall texture	Walls throughout all rooms	Surf.	F	RACM	Positive	~3,600 SF

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, Misc.: Miscellaneous material per AHERA, SF: Square Feet, EA: Each; Cat I: Category I per NESHAPS, Cat II: Category II per NESHAPS, RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.

Table 1: Confirmed ACMs, ACCMs, and Assumed ACMs								
Building	HSA#	HSA Description	Material Location	AHERA Class	Friability	NESHAP Category	Summarized Results	Quantity
Residence 5	CC2R5-14	Assumed asbestos-containing exposed cement pipe (assumed to be buried in places throughout site)	2" exposed cement asbestos pipe approximately 20' east of Resident 5. Cement asbestos pipe is assumed to be buried throughout site, but locations are unknown.	Misc.	NF	Cat II	Assumed	Not quantified**
Residence 6	CC2R6-04	Off-white joint compound and gypsum wallboard	Walls throughout all rooms	Misc.	NF	Cat II	Positive	~3,400 SF
Residence 6	CC2R6-05	White spray-applied wall and ceiling texture	Walls throughout all rooms	Surf.	F	RACM	Positive	~3,400 SF
Residence 6	CC2R6-06	Assumed asbestos-containing roofing paper	Underneath corrugated metal roofing (inaccessible)	Misc.	—	—	Assumed	~1,200 SF
Residence 6	CC2R6-07	Assumed asbestos-containing vapor barrier paper	Underneath wood siding	Misc.	—	—	Assumed	~1,800 SF
Wood Stave Penstock	CC2WSP-02	Assumed asbestos-containing red gaskets	Throughout Wood Stave Penstock. Not sampled in order to avoid impacting the integrity of the structure.	Misc.	—	—	Assumed	~20 EA

NF: Non-Friable; F: Friable; HSA: material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, Misc.: Miscellaneous material per AHERA, SF: Square Feet, EA: Each; Cat I: Category I per NESHAPS, Cat II: Category II per NESHAPS, RACM: Regulated Asbestos-Containing Material per NESHAPS; Materials that were unable to be sampled (typically because of inaccessibility or sampling would be too destructive while facilities were still operational) are assumed to be asbestos-containing. *Not quantified because of unknown extent of material not accessible at time of inspection; as-built drawings needed for approximate quantification.



Table 4-2 Asbestos Sample Results by Layer

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Control Center Building	CC2CCB-1-01	1	Off-white vinyl floor sheeting with tan terrazzo pattern	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building	CC2CCB-1-02	1	Off-white vinyl floor sheeting with tan terrazzo pattern	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building	CC2CCB-1-03	1	Off-white vinyl floor sheeting with tan terrazzo pattern	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in operations room, desk area in center of room	Misc.		None Detected
Control Center Building	CC2CCB-2-01	1	4" brown rubber cove base	Walls in operations room	Misc.		None Detected
Control Center Building		2	Yellow mastic	Walls in operations room	Misc.		None Detected
Control Center Building	CC2CCB-2-02	1	4" brown rubber cove base	Walls in operations room	Misc.		None Detected
Control Center Building		2	Yellow mastic	Walls in operations room	Misc.		None Detected
Control Center Building		3	Silver paint	Walls in operations room	Misc.		None Detected
Control Center Building	CC2CCB-2-03	1	4" brown rubber cove base	Walls in operations room	Misc.		None Detected
Control Center Building		2	Yellow mastic	Walls in operations room	Misc.		None Detected
Control Center Building	CC2CCB-3-01	1	Off-white vinyl floor sheeting with square tile pattern	Flooring in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-3-02	1	Off-white vinyl floor sheeting with square tile pattern	Flooring in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in bathroom and storage closet	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Control Center Building	CC2CCB-3-03	1	Off-white vinyl floor sheeting with square tile pattern	Flooring in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Gray paper backing with yellow mastic	Flooring in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-4-01	1	4" white vinyl cove base	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-4-02	1	4" white vinyl cove base	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Off-white mastic	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-4-03	1	4" white vinyl cove base	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-4-04	1	4" white vinyl cove base	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Off-white mastic	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building		3	Yellow brittle mastic	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-4-05	1	4" white vinyl cove base	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Off-white mastic	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building		2	Yellow brittle mastic	Walls in bathroom and storage closet	Misc.		None Detected
Control Center Building	CC2CCB-5-01	1	Black rubber carpet backing	Flooring in operations room	Misc.		None Detected
Control Center Building		2	Yellow mastic	Flooring in operations room	Misc.		None Detected
Control Center Building	CC2CCB-5-02	1	Black rubber carpet backing	Flooring in operations room	Misc.		None Detected
Control Center Building		2	Yellow mastic	Flooring in operations room	Misc.		None Detected
Diversion Dam	CC2DD-1-01	1	Black asphaltic sealant	Support conduit from electrical box, extends into reservoir	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Diversion Dam	CC2DD-1-02	1	Black asphaltic sealant	Support conduit from electrical box, extends into reservoir	Misc.		None Detected
Diversion Dam	CC2DD-1-03	1	Black asphaltic sealant	Support conduit from electrical box, extends into reservoir	Misc.		None Detected
Emergency Spill Equipment Shed	CC2ES-1-01	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.		None Detected
Emergency Spill Equipment Shed	CC2ES-1-02	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.		None Detected
Emergency Spill Equipment Shed	CC2ES-1-03	1	Black asphaltic roofing shingles with granules	Roofing of Emergency Spill Equipment Building	Misc.		None Detected
Former Bunkhouse	CC2FBH-1-01	1	12"x12" white glued-on ceiling tile with pinholes (associated with HSA 8 - brown glue dots)	Ceiling throughout Former Bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-1-02	1	12"x12" white glued-on ceiling tile with pinholes (associated with HSA 8 - brown glue dots)	Ceiling throughout Former Bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-1-03	1	12"x12" white glued-on ceiling tile with pinholes (associated with HSA 8 - brown glue dots)	Ceiling throughout Former Bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-2-01	1	9"x9" off-white vinyl floor tile with gray and tan streak pattern	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	4%	Chrysotile
Former Bunkhouse		2	Black asphaltic mastic	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	3%	Chrysotile
Former Bunkhouse	CC2FBH-2-02	1	9"x9" off-white vinyl floor tile with gray and tan streak pattern	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	3%	Chrysotile
Former Bunkhouse		2	Black asphaltic mastic	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	4%	Chrysotile

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former Bunkhouse	CC2FBH-2-03	1	9"x9" off-white vinyl floor tile with gray and tan streak pattern	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	3%	Chrysotile
Former Bunkhouse		2	Black asphaltic mastic	Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	Misc.	4%	Chrysotile
Former Bunkhouse	CC2FBH-3-01	1	Light blue linoleum with pink and gray marble pattern	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse		2	Tan woven canvas backing with white mastic	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-3-02	1	Light blue linoleum with pink and gray marble pattern	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse		2	Tan woven canvas backing with white mastic	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-3-03	1	Light blue linoleum with pink and gray marble pattern	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse		2	Tan woven canvas backing with white mastic	Flooring in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-4-01	1	Dark brown rubber wall strips	Walls in front room	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in front room	Misc.		None Detected
Former Bunkhouse	CC2FBH-4-02	1	Dark brown rubber wall strips	Walls in front room	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in front room	Misc.		None Detected
Former Bunkhouse	CC2FBH-4-03	1	Dark brown rubber wall strips	Walls in front room	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in front room	Misc.		None Detected
Former Bunkhouse	CC2FBH-5-01	1	Orange carpet mastic	Carpet seam at tacked-down wood strips at base of doors throughout	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former Bunkhouse	CC2FBH-5-02	1	Orange carpet mastic	Carpet seam at tacked-down wood strips at base of doors throughout	Misc.		None Detected
Former Bunkhouse	CC2FBH-5-03	1	Orange carpet mastic	Carpet seam at tacked-down wood strips at base of doors throughout	Misc.		None Detected
Former Bunkhouse	CC2FBH-6-01	1	White gypsum wallboard with paper	Ceilings throughout, above 12"x12" white glued-on ceiling tiles	Misc.		None Detected
Former Bunkhouse	CC2FBH-6-02	1	White gypsum wallboard with paper	Ceilings throughout, above 12"x12" white glued-on ceiling tiles	Misc.		None Detected
Former Bunkhouse	CC2FBH-6-03	1	White gypsum wallboard with paper	Ceilings throughout, above 12"x12" white glued-on ceiling tiles	Misc.		None Detected
Former Bunkhouse	CC2FBH-7-01	1	4" black rubber cove base	Walls in bathroom	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-7-02	1	4" black rubber cove base	Walls in bathroom	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-7-03	1	4" black rubber cove base	Walls in bathroom	Misc.		None Detected
Former Bunkhouse		2	Brown brittle mastic	Walls in bathroom	Misc.		None Detected
Former Bunkhouse	CC2FBH-8-01	1	Dark brown glue dots	Associated with HSA CC2FBH-1, throughout all rooms	Misc.		None Detected
Former Bunkhouse	CC2FBH-8-02	1	Dark brown glue dots	Associated with HSA CC2FBH-1, throughout all rooms	Misc.		None Detected
Former Bunkhouse	CC2FBH-8-03	1	Dark brown glue dots	Associated with HSA CC2FBH-1, throughout all rooms	Misc.		None Detected
Former Bunkhouse	CC2FBH-9-01	1	Black mastic on paper backing	Insulation in attic	Misc.		None Detected
Former Bunkhouse		2	Fiberglass batt insulation	Insulation in attic	TSI		None Detected
Former Bunkhouse	CC2FBH-9-02	1	Black mastic on paper backing	Insulation in attic	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former Bunkhouse		2	Fiberglass batt insulation	Insulation in attic	TSI		None Detected
Former Bunkhouse	CC2FBH-9-03	1	Black mastic on paper backing	Insulation in attic	Misc.		None Detected
Former Bunkhouse		2	Fiberglass batt insulation	Insulation in attic	TSI		None Detected
Former Bunkhouse	CC2FBH-11-01	1	Asphaltic roof shingles with granules	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse		2	Black asphaltic material	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-11-02	1	Asphaltic roof shingles with granules	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse		2	Black asphaltic material	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-11-03	1	Asphaltic roof shingles with granules	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse		2	Black asphaltic material	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse		3	Asphaltic roof shingles with granules	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse		4	Black asphaltic material	Roofing throughout former bunkhouse	Misc.		None Detected
Former Bunkhouse	CC2FBH-13-01	1	Cement asbestos board debris	Scattered throughout exterior in landscaping rock cover	Misc.	23%	Chrysotile
Former Bunkhouse	CC2FBH-13-02	1	Cement asbestos board debris	Scattered throughout exterior in landscaping rock cover	Misc.	24%	Chrysotile
Former Bunkhouse	CC2FBH-13-03	1	Cement asbestos board debris	Scattered throughout exterior in landscaping rock cover	Misc.	25%	Chrysotile
Former Cookhouse	CC2FCH-1-01	1	Brown residual wall mastic	Walls in former kitchen area	Misc.		None Detected
Former Cookhouse	CC2FCH-1-02	1	Brown residual wall mastic	Walls in former kitchen area	Misc.		None Detected
Former Cookhouse	CC2FCH-1-03	1	Brown residual wall mastic	Walls in former kitchen area	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former Cookhouse	CC2FCH-2-01	1	Black mastic on paper backing	Exposed ceiling and walls in second floor attic space	Misc.		None Detected
Former Cookhouse		2	Yellow fiberglass batt insulation	Exposed ceiling and walls in second floor attic space	TSI		None Detected
Former Cookhouse	CC2FCH-2-02	1	Black mastic on paper backing	Exposed ceiling and walls in second floor attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-2-03	1	Black mastic on paper backing	Exposed ceiling and walls in second floor attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-3-01	1	Gray grout	Chimney in attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-3-02	1	Gray grout	Chimney in attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-3-03	1	Gray grout	Chimney in attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-4-01	1	Red square pattern vinyl floor sheeting	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse		2	Brown paper backing with mastic	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-4-02	1	Red square pattern vinyl floor sheeting	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse		2	Brown paper backing with mastic	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse		3	White leveling compound	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-4-03	1	Red square pattern vinyl floor sheeting	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse		2	Brown paper backing with mastic	Flooring throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-5-01	1	3" tan rubber cove base	Walls throughout main floor	Misc.		None Detected
Former Cookhouse		2	Brown brittle mastic	Walls throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-5-02	1	3" tan rubber cove base	Walls throughout main floor	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former Cookhouse		2	Brown brittle mastic	Walls throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-5-03	1	3" tan rubber cove base	Walls throughout main floor	Misc.		None Detected
Former Cookhouse		2	Brown brittle mastic	Walls throughout main floor	Misc.		None Detected
Former Cookhouse	CC2FCH-7-01	1	Red chimney brick	Chimney in attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-7-02	1	Red chimney brick	Chimney in attic space	Misc.		None Detected
Former Cookhouse	CC2FCH-7-03	1	Red chimney brick	Chimney in attic space	Misc.		None Detected
Former School	CC2FS-1-01	1	Beige vinyl floor sheeting with terrazzo pattern	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School		2	Gray paper backing with yellow mastic	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School	CC2FS-1-02	1	Beige vinyl floor sheeting with terrazzo pattern	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School		2	Gray paper backing with yellow mastic	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School	CC2FS-1-03	1	Beige vinyl floor sheeting with terrazzo pattern	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School		2	Gray paper backing with yellow mastic	Flooring in conference room, hallway, restrooms, closets, and kitchen	Misc.		None Detected
Former School	CC2FS-2-01	1	Gray sink undercoating	Kitchen sink	Misc.	10%	Chrysotile
Former School	CC2FS-2-02	1	Gray sink undercoating	Kitchen sink	Misc.	12%	Chrysotile
Former School	CC2FS-2-03	1	Gray sink undercoating	Kitchen sink	Misc.	10%	Chrysotile
Former School	CC2FS-3-01	1	4" brown rubber cove base	Walls throughout all rooms	Misc.		None Detected
Former School		2	Off-white mastic	Walls throughout all rooms	Misc.		None Detected
Former School	CC2FS-3-02	1	4" brown rubber cove base	Walls throughout all rooms	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former School	CC2FS-3-03	1	4" brown rubber cove base	Walls throughout all rooms	Misc.		None Detected
Former School		2	Brown mastic	Walls throughout all rooms	Misc.		None Detected
Former School	CC2FS-5-01	1	12"x12" white tongue and groove nailed-on ceiling tiles	Ceiling in hallway, conference room, and kitchen.	Misc.		None Detected
Former School	CC2FS-5-02	1	12"x12" white tongue and groove nailed-on ceiling tiles	Ceiling in hallway, conference room, and kitchen.	Misc.		None Detected
Former School	CC2FS-5-03	1	12"x12" white tongue and groove nailed-on ceiling tiles	Ceiling in hallway, conference room, and kitchen.	Misc.		None Detected
Former School	CC2FS-6-01	1	Off-white joint compound	Walls throughout all rooms	Misc.	0.1%*	Chrysotile
Former School		2	Off-white joint compound	Walls throughout all rooms	Misc.	<0.1%*	Chrysotile
Former School		3	Beige gypsum wallboard	Walls throughout all rooms	Misc.		None Detected
Former School		4	Off-white joint compound	Walls throughout all rooms	Misc.		None Detected
Former School	CC2FS-6-02	1	Off-white joint compound	Walls throughout all rooms	Misc.	0.1%*	Chrysotile
Former School		2	Off-white joint compound	Walls throughout all rooms	Misc.	<0.1%*	Chrysotile
Former School		3	Beige gypsum wallboard	Walls throughout all rooms	Misc.		None Detected
Former School		4	Off-white joint compound	Walls throughout all rooms	Misc.		None Detected
Former School	CC2FS-6-03	1	Off-white joint compound	Walls throughout all rooms	Misc.	<0.1%*	Chrysotile
Former School		2	Off-white joint compound	Walls throughout all rooms	Misc.	0.2%*	Chrysotile
Former School		3	Beige gypsum wallboard	Walls throughout all rooms	Misc.		None Detected
Former School		4	Off-white joint compound	Walls throughout all rooms	Misc.		None Detected
Former School	CC2FS-8-01	1	Light pink fire brick	Incinerator located at corner of exterior recreational area	Misc.		None Detected
Former School	CC2FS-8-02	1	Light pink fire brick	Incinerator located at corner of exterior recreational area	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Former School	CC2FS-8-03	1	Light pink fire brick	Incinerator located at corner of exterior recreational area	Misc.		None Detected
Hazardous Waste Storage	CC2HWS-1-01	1	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		2	Black asphaltic mastic	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		3	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Hazardous Waste Storage	CC2HWS-1-02	1	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		2	Black asphaltic mastic	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		3	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Hazardous Waste Storage	CC2HWS-1-03	1	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		2	Black asphaltic mastic	Throughout roof	Misc.		None Detected
Hazardous Waste Storage		3	Black asphaltic roofing shingles with granules	Throughout roof	Misc.		None Detected
Maintenance Building	CC2MB-1-01	1	12"x12" blue vinyl floor tile with clear adhesive	Flooring in office area	Misc.		None Detected
Maintenance Building	CC2MB-1-02	1	12"x12" blue vinyl floor tile with clear adhesive	Flooring in office area	Misc.		None Detected
Maintenance Building	CC2MB-1-03	1	Off-white soft mastic	Flooring in office area	Misc.		None Detected
Maintenance Building		2	12"x12" blue vinyl floor tile with clear adhesive	Flooring in office area	Misc.		None Detected
Maintenance Building		3	Tan soft mastic	Flooring in office area	Misc.		None Detected
Maintenance Building	CC2MB-2-01	1	4" tan rubber cove base with tan mastic	Walls in office area	Misc.		None Detected
Maintenance Building	CC2MB-2-02	1	4" tan rubber cove base	Walls in office area	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Maintenance Building	CC2MB-2-03	1	4" tan rubber cove base	Walls in office area	Misc.		None Detected
Maintenance Building		2	Gold brittle mastic	Walls in office area	Misc.		None Detected
Maintenance Building	CC2MB-2-03	1	4" tan rubber cove base	Walls in office area	Misc.		None Detected
Maintenance Building		2	Tan mastic	Walls in office area	Misc.		None Detected
Maintenance Building	CC2MB-3-01	1	Off-white mastic	Flooring in bathroom	Misc.		None Detected
Maintenance Building		2	Off-white vinyl floor sheeting with square dot pattern	Flooring in bathroom	Misc.		None Detected
Maintenance Building		3	Tan paper backing with tan mastic	Flooring in bathroom	Misc.		None Detected
Maintenance Building	CC2MB-3-02	1	Off-white mastic	Flooring in bathroom	Misc.		None Detected
Maintenance Building		2	Off-white vinyl floor sheeting with square dot pattern	Flooring in bathroom	Misc.		None Detected
Maintenance Building		3	Tan paper backing with tan mastic	Flooring in bathroom	Misc.		None Detected
Maintenance Building	CC2MB-3-03	1	Off-white vinyl floor sheeting with square dot pattern	Flooring in bathroom	Misc.		None Detected
Maintenance Building		2	Tan paper backing with tan mastic	Flooring in bathroom	Misc.		None Detected
Maintenance Building	CC2MB-4-01	1	6" tan cove base with mastic	Walls in office/break room area	Misc.		None Detected
Maintenance Building		2	Off-white mastic	Walls in office/break room area	Misc.		None Detected
Maintenance Building		3	Trace brown mastic with residual gypsum wallboard paper	Walls in office/break room area	Misc.		None Detected
Maintenance Building	CC2MB-4-02	1	6" tan cove base with mastic	Walls in office/break room area	Misc.		None Detected
Maintenance Building		2	Off-white mastic	Walls in office/break room area	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Maintenance Building	CC2MB-4-03	1	6" tan cove base with mastic	Walls in office/break room area	Misc.		None Detected
Maintenance Building		2	Off-white mastic	Walls in office/break room area	Misc.		None Detected
Maintenance Building	CC2MB-5-01	1	Gray sink undercoating	Sink in break room area	Misc.		None Detected
Maintenance Building	CC2MB-5-02	1	Gray sink undercoating	Sink in break room area	Misc.		None Detected
Maintenance Building	CC2MB-5-03	1	Gray sink undercoating	Sink in break room area	Misc.		None Detected
Maintenance Building	CC2MB-6-01	1	White spray applied wall texture	Walls in office/break room/bathroom area	Surf.		None Detected
Maintenance Building		2	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		3	Peach gypsum wallboard	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building	CC2MB-6-02	1	White spray applied wall texture	Walls in office/break room/bathroom area	Surf.		None Detected
Maintenance Building	CC2MB-6-03	1	White spray applied wall texture	Walls in office/break room/bathroom area	Surf.		None Detected
Maintenance Building	CC2MB-7-01	1	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		2	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		3	Off-white thin material	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		4	Peach gypsum wallboard	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building	CC2MB-7-02	1	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		2	Green thin material	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		3	Peach gypsum wallboard	Walls in office/break room/bathroom area	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Maintenance Building	CC2MB-7-03	1	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		2	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		3	White joint compound	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Building		4	Peach gypsum wallboard	Walls in office/break room/bathroom area	Misc.		None Detected
Maintenance Storage Building	CC2MSB-1-01	1	Asphaltic roofing shingles with granules	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building		2	Black asphaltic mastic	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building		3	Asphaltic roofing shingles with granules	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building	CC2MSB-1-02	1	Asphaltic roofing shingles with granules	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building		2	Black asphaltic mastic	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building	CC2MSB-1-03	1	Asphaltic roofing shingles with granules	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building		2	Black asphaltic mastic	Roofing throughout maintenance storage building	Misc.		None Detected
Maintenance Storage Building		3	Asphaltic roofing shingles with granules	Roofing throughout maintenance storage building	Misc.		None Detected
Powerhouse	CC2PH-1-01	1	Silver paint	Hatch on basement stroll case piping	Misc.		None Detected
Powerhouse		2	Red gasket	Hatch on basement stroll case piping	Misc.		None Detected
Powerhouse	CC2PH-1-02	1	Silver paint	Hatch on basement stroll case piping	Misc.		None Detected
Powerhouse		2	Red gasket	Hatch on basement stroll case piping	Misc.		None Detected
Powerhouse	CC2PH-1-03	1	Silver paint	Hatch on basement stroll case piping	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Powerhouse		2	Red gasket	Hatch on basement stroll case piping	Misc.		None Detected
Powerhouse	CC2PH-2-01	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Powerhouse	CC2PH-2-02	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Powerhouse	CC2PH-2-03	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Powerhouse	CC2PH-3-01	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Powerhouse	CC2PH-3-02	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Powerhouse	CC2PH-3-03	1	Gray brittle window putty	Windows throughout main floor	Misc.		None Detected
Residence 3	CC2R3-1-01	1	Off-white vinyl floor sheeting with gray mosaic pattern	Flooring in mud room, pantry, bathroom, and kitchen	Misc.		None Detected
Residence 3		2	White paper backing with yellow mastic	Flooring in mud room, pantry, bathroom, and kitchen	Misc.	48%	Chrysotile
Residence 3	CC2R3-1-02	1	Off-white vinyl floor sheeting with gray mosaic pattern	Flooring in mud room, pantry, bathroom, and kitchen	Misc.		None Detected
Residence 3		2	White paper backing with yellow mastic	Flooring in mud room, pantry, bathroom, and kitchen	Misc.	54%	Chrysotile
Residence 3	CC2R3-1-03	1	Off-white vinyl floor sheeting with gray mosaic pattern	Flooring in mud room, pantry, bathroom, and kitchen	Misc.		None Detected
Residence 3		2	White paper backing with mastic	Flooring in mud room, pantry, bathroom, and kitchen	Misc.	49%	Chrysotile
Residence 3	CC2R3-2-01	1	Off-white vinyl floor sheeting with gray 9"x9" square pattern	Flooring underneath HSA CC2R3-01	Misc.		None Detected
Residence 3		2	Black paper backing with mastic	Flooring underneath HSA CC2R3-01	Misc.		None Detected
Residence 3	CC2R3-2-02	1	Off-white vinyl floor sheeting with gray 9"x9" square pattern	Flooring underneath HSA CC2R3-01	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 3		2	Black paper backing with mastic	Flooring underneath HSA CC2R3-01	Misc.		None Detected
Residence 3	CC2R3-2-03	1	Off-white vinyl floor sheeting with gray 9"x9" square pattern	Flooring underneath HSA CC2R3-01	Misc.		None Detected
Residence 3		2	Black paper backing with mastic	Flooring underneath HSA CC2R3-01	Misc.		None Detected
Residence 3	CC2R3-3-01	1	4" brown rubber cove base	Walls in mud room and bathroom	Misc.		None Detected
Residence 3		2	Off-white mastic	Walls in mud room and bathroom	Misc.		None Detected
Residence 3	CC2R3-3-02	1	4" brown rubber cove base	Walls in mud room and bathroom	Misc.		None Detected
Residence 3		2	Off-white mastic	Walls in mud room and bathroom	Misc.		None Detected
Residence 3	CC2R3-3-03	1	4" brown rubber cove base	Walls in mud room and bathroom	Misc.		None Detected
Residence 3		2	Off-white mastic	Walls in mud room and bathroom	Misc.		None Detected
Residence 3	CC2R3-3-04	1	4" brown rubber cove base	Walls in mud room and bathroom	Misc.		None Detected
Residence 3		2	Off-white mastic	Walls in mud room and bathroom	Misc.		None Detected
Residence 3	CC2R3-4-01	1	White gypsum wallboard with paper	Walls throughout	Misc.		None Detected
Residence 3	CC2R3-4-02	1	Off-white joint compound	Walls throughout	Misc.		None Detected
Residence 3		2	White gypsum wallboard with paper	Walls throughout	Misc.		None Detected
Residence 3	CC2R3-4-03	1	Off-white joint compound	Walls throughout	Misc.		None Detected
Residence 3		2	White gypsum wallboard with paper	Walls throughout	Misc.		None Detected
Residence 3	CC2R3-4-04	1	Off-white joint compound	Walls throughout	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 3		2	Off-white joint compound	Walls throughout	Misc.		None Detected
Residence 3		3	White gypsum wallboard with paper	Walls throughout	Misc.		None Detected
Residence 3	CC2R3-5-01	1	Off-white joint compound	Applied separately from gypsum, in kitchen and hall way closet	Misc.		None Detected
Residence 3	CC2R3-5-02	1	Off-white joint compound	Applied separately from gypsum, in kitchen and hall way closet	Misc.		None Detected
Residence 3	CC2R3-5-03	1	Off-white joint compound	Applied separately from gypsum, in kitchen and hall way closet	Misc.		None Detected
Residence 3	CC2R3-6-01	1	Black mastic	Behind wood wall paneling in dining room and living room	Misc.	3%	Chrysotile
Residence 3		2	Brown plywood walls	Behind wood wall paneling in dining room and living room	Misc.		None Detected
Residence 3	CC2R3-6-02	1	Black mastic	Behind wood wall paneling in dining room and living room	Misc.	4%	Chrysotile
Residence 3		2	Brown plywood walls	Behind wood wall paneling in dining room and living room	Misc.		None Detected
Residence 3	CC2R3-6-03	1	Black mastic	Behind wood wall paneling in dining room and living room	Misc.	3%	Chrysotile
Residence 3		2	Brown plywood walls	Behind wood wall paneling in dining room and living room	Misc.		None Detected
Residence 3	CC2R3-7-01	1	Troweled-on plaster coat on chimney behind water heater in kitchen	Behind wood wall paneling in dining room and living room	Surf.		None Detected
Residence 3	CC2R3-7-02	1	Troweled-on plaster coat on chimney behind water heater in kitchen	Behind wood wall paneling in dining room and living room	Surf.		None Detected
Residence 3	CC2R3-7-03	1	Troweled-on plaster coat on chimney behind water heater in kitchen	Behind wood wall paneling in dining room and living room	Surf.		None Detected
Residence 3	CC2R3-9-01	1	Black asphaltic roofing shingles with granules	Roofing throughout main house roof	Misc.		None Detected
Residence 3	CC2R3-9-02	1	Black asphaltic roofing shingles with granules	Roofing throughout main house roof	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 3	CC2R3-9-03	1	Black asphaltic roofing shingles with granules	Roofing throughout main house roof	Misc.		None Detected
Residence 3	CC2R3-10-01	1	Black asphaltic roofing paper	Roofing throughout main house	Misc.		None Detected
Residence 3	CC2R3-10-02	1	Black asphaltic roofing paper	Roofing throughout main house	Misc.		None Detected
Residence 3	CC2R3-10-03	1	Black asphaltic roofing paper	Roofing throughout main house	Misc.		None Detected
Residence 3	CC2R3-11-01	1	Exterior white vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected
Residence 3	CC2R3-11-02	1	Exterior white vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected
Residence 3	CC2R3-11-03	1	Exterior white vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected
Residence 3	CC2R3-12-01	1	Black asphaltic roofing shingles with granules	Older roofing on shed	Misc.		None Detected
Residence 3	CC2R3-12-02	1	Black asphaltic roofing shingles with granules	Older roofing on shed	Misc.		None Detected
Residence 3	CC2R3-12-03	1	Black asphaltic roofing shingles with granules	Older roofing on shed	Misc.		None Detected
Residence 3	CC2R3-13-01	1	Gray window putty	Shed windows	Misc.		None Detected
Residence 3	CC2R3-13-02	1	Gray window putty	Shed windows	Misc.		None Detected
Residence 3	CC2R3-13-03	1	Gray window putty	Shed windows	Misc.		None Detected
Residence 4	CC2R4-10-01	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	23%	Chrysotile
Residence 4	CC2R4-10-02	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	27%	Chrysotile
Residence 4	CC2R4-10-03	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	26%	Chrysotile
Residence 4	CC2R4-1-01	1	Tan vinyl floor sheeting with multi-colored mosaic pattern	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 4		2	Gray paper backing with mastic	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4		3	White leveling compound	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4	CC2R4-1-02	1	Tan vinyl floor sheeting with multi-colored mosaic pattern	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4		2	Gray paper backing with mastic	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4		3	White leveling compound	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4	CC2R4-1-03	1	Tan vinyl floor sheeting with multi-colored mosaic pattern	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4		2	Gray paper backing with mastic	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4		3	White leveling compound	Flooring in bathroom, kitchen, and mud room	Misc.		None Detected
Residence 4	CC2R4-11-01	1	Dark brown brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 4	CC2R4-11-02	1	Dark brown brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 4	CC2R4-11-03	1	Dark brown brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 4	CC2R4-2-01	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	6%	Chrysotile
Residence 4	CC2R4-2-02	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	7%	Chrysotile
Residence 4	CC2R4-2-03	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	8%	Chrysotile
Residence 4	CC2R4-2-04	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	5%	Chrysotile
Residence 4	CC2R4-2-05	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	4%	Chrysotile
Residence 4	CC2R4-3-01	1	Off-white spray-applied wall texture (HSA 5)	Walls throughout all rooms	Surf.	2%	Chrysotile

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 4		2	Off-white joint compound	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 4		3	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-3-02	1	Off-white joint compound	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 4		2	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-3-03	1	Off-white joint compound	Walls throughout all rooms	Misc.	2%	Chrysotile
Residence 4		2	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-4-01	1	3" light brown rubber cove base	Walls throughout all rooms	Misc.		None Detected
Residence 4		2	White mastic	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-4-02	1	3" light brown rubber cove base	Walls throughout all rooms	Misc.		None Detected
Residence 4		2	White mastic	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-4-03	1	3" light brown rubber cove base	Walls throughout all rooms	Misc.		None Detected
Residence 4		2	White mastic	Walls throughout all rooms	Misc.		None Detected
Residence 4	CC2R4-5-01	1	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 4	CC2R4-5-02	1	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	3%	Chrysotile
Residence 4	CC2R4-5-03	1	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 4	CC2R4-5-04	1	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	3%	Chrysotile
Residence 4	CC2R4-5-05	1	Off-white spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 4		2	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected

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Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 4	CC2R4-6-01	1	Off-white grout associated with fireplace bricks on wall	Living room wall	Misc.		None Detected
Residence 4	CC2R4-6-02	1	Off-white grout associated with fireplace bricks on wall	Living room wall	Misc.		None Detected
Residence 4	CC2R4-6-03	1	Off-white grout associated with fireplace bricks on wall	Living room wall	Misc.		None Detected
Residence 4	CC2R4-7-01	1	Dark gray grout associated with fireplace bricks on floor	Living room floor	Misc.		None Detected
Residence 4	CC2R4-7-02	1	Dark gray grout associated with fireplace bricks on floor	Living room floor	Misc.		None Detected
Residence 4	CC2R4-7-03	1	Dark gray grout associated with fireplace bricks on floor	Living room floor	Misc.		None Detected
Residence 4	CC2R4-8-01	1	Cement asbestos board fireplace panel	Living room wall	Misc.	27%	Chrysotile
Residence 4	CC2R4-8-02	1	Cement asbestos board fireplace panel	Living room wall	Misc.	29%	Chrysotile
Residence 4	CC2R4-8-03	1	Cement asbestos board fireplace panel	Living room wall	Misc.	28%	Chrysotile
Residence 4	CC2R4-9-01	1	Black asphaltic vapor barrier paper	Behind exterior wood siding	Misc.		None Detected
Residence 4	CC2R4-9-02	1	Black asphaltic vapor barrier paper	Behind exterior wood siding	Misc.		None Detected
Residence 4	CC2R4-9-03	1	Black asphaltic vapor barrier paper	Behind exterior wood siding	Misc.		None Detected
Residence 5	CC2R5-10-01	1	Thick drywall mud	On door jamb between living room and hallway	Surf.	2%	Chrysotile
Residence 5	CC2R5-10-02	1	Thick drywall mud	On door jamb between living room and hallway	Surf.	3%	Chrysotile
Residence 5	CC2R5-10-03	1	Thick drywall mud	On door jamb between living room and hallway	Surf.	2%	Chrysotile
Residence 5	CC2R5-1-01	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	28%	Chrysotile
Residence 5	CC2R5-1-02	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	30%	Chrysotile

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 5	CC2R5-1-03	1	Cement asbestos board roof shingles	Roofing throughout house	Misc.	27%	Chrysotile
Residence 5	CC2R5-11-01	1	Gray grout associated with fireplace	Floor in living room	Misc.		None Detected
Residence 5	CC2R5-11-02	1	Gray grout associated with fireplace	Floor in living room	Misc.		None Detected
Residence 5	CC2R5-11-03	1	Gray grout associated with fireplace	Floor in living room	Misc.		None Detected
Residence 5	CC2R5-12-01	1	Gray grout associated with fireplace	Wall in living room	Misc.		None Detected
Residence 5	CC2R5-12-02	1	Gray grout associated with fireplace	Wall in living room	Misc.		None Detected
Residence 5	CC2R5-12-03	1	Gray grout associated with fireplace	Wall in living room	Misc.		None Detected
Residence 5	CC2R5-13-01	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 5	CC2R5-13-02	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	3%	Chrysotile
Residence 5	CC2R5-13-03	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	3%	Chrysotile
Residence 5	CC2R5-13-04	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 5	CC2R5-13-05	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 5		2	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 5	CC2R5-2-01	1	Black brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 5	CC2R5-2-02	1	Black brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 5	CC2R5-2-03	1	Black brittle papery roof drain residual insulation	Exterior of house, at base of one roof drain	Misc.		None Detected
Residence 5	CC2R5-3-01	1	Black asphaltic vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 5	CC2R5-3-02	1	Black asphaltic vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected
Residence 5	CC2R5-3-03	1	Black asphaltic vapor barrier paper	Underneath wood siding, throughout exterior	Misc.		None Detected
Residence 5	CC2R5-4-01	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	4%	Chrysotile
Residence 5	CC2R5-4-02	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	7%	Chrysotile
Residence 5	CC2R5-4-03	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	5%	Chrysotile
Residence 5	CC2R5-4-04	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	5%	Chrysotile
Residence 5	CC2R5-4-05	1	White spray-applied acoustical ceiling texture	Ceiling throughout all rooms	Surf.	6%	Chrysotile
Residence 5	CC2R5-5-01	1	White joint compound with paper	Walls throughout all rooms	Misc.	2%	Chrysotile
Residence 5		2	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 5	CC2R5-5-02	1	White joint compound with paper	Walls throughout all rooms	Misc.	3%	Chrysotile
Residence 5		2	White joint compound with paper	Walls throughout all rooms	Misc.	2%	Chrysotile
Residence 5		3	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 5	CC2R5-5-03	1	White joint compound with paper	Walls throughout all rooms	Misc.	3%	Chrysotile
Residence 5		2	White joint compound with paper	Walls throughout all rooms	Misc.	2%	Chrysotile
Residence 5		3	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 5	CC2R5-6-01	1	3" light gray rubber cove base	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Beige mastic	Walls in kitchen, hallway, and mud room	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 5	CC2R5-6-02	1	3" light gray rubber cove base	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Beige mastic	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5	CC2R5-6-03	1	3" light gray rubber cove base	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Beige mastic	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5	CC2R5-7-01	1	Off-white vinyl floor sheeting with pink and blue diamond pattern	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Tan paper backing with mastic	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		3	Off-white leveling compound	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5	CC2R5-7-02	1	Beige mastic	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Off-white vinyl floor sheeting with pink and blue diamond pattern	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		3	Off-white leveling compound	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		4	Green fibrous material with mastic	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5	CC2R5-7-03	1	Beige mastic	Walls in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5		2	Off-white vinyl floor sheeting with pink and blue diamond pattern	Floors in kitchen, hallway, and mud room	Misc.		None Detected
Residence 5	CC2R5-8-01	1	Brown vinyl floor sheeting with mosaic pattern	Floor in bathroom	Misc.		None Detected
Residence 5		2	Gray paper backing with mastic	Floor in bathroom	Misc.		None Detected
Residence 5	CC2R5-8-02	1	Brown vinyl floor sheeting with mosaic pattern	Floor in bathroom	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 5		2	Gray paper backing with mastic	Floor in bathroom	Misc.		None Detected
Residence 5	CC2R5-8-03	1	Brown vinyl floor sheeting with mosaic pattern	Floor in bathroom	Misc.		None Detected
Residence 5		2	Gray paper backing with mastic	Floor in bathroom	Misc.		None Detected
Residence 5	CC2R5-9-01	1	3" brown rubber cove base	Walls in bathroom	Misc.		None Detected
Residence 5		2	Beige mastic	Walls in bathroom	Misc.		None Detected
Residence 5	CC2R5-9-02	1	3" brown rubber cove base	Walls in bathroom	Misc.		None Detected
Residence 5		2	Beige mastic	Wall in bathroom	Misc.		None Detected
Residence 5	CC2R5-9-03	1	3" brown rubber cove base	Wall in bathroom	Misc.		None Detected
Residence 5		2	Beige mastic	Wall in bathroom	Misc.		None Detected
Residence 6	CC2R6-1-01	1	Off-white vinyl floor sheeting with pink square pattern	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6		2	Tan paper backing with mastic	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6	CC2R6-1-02	1	Off-white vinyl floor sheeting with pink square pattern	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6		2	Tan paper backing with mastic	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6		3	Brown brittle mastic	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6	CC2R6-1-03	1	Off-white vinyl floor sheeting with pink square pattern	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6		2	Tan paper backing with mastic	Floor in kitchen and bathroom	Misc.		None Detected
Residence 6	CC2R6-2-01	1	Off-white vinyl floor sheeting with multi-colored speckle pattern	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 6		2	Brown paper backing with brown mastic	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6		3	Tan wood compressed material	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6	CC2R6-2-02	1	Off-white vinyl floor sheeting with multi-colored speckle pattern	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6		2	Brown paper backing with brown mastic	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6	CC2R6-2-03	1	Off-white vinyl floor sheeting with multi-colored speckle pattern	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6		2	Brown paper backing with brown mastic	Floor in bedrooms and under carpeting in living room, hallway, and dining room	Misc.		None Detected
Residence 6	CC2R6-3-01	1	3" white painted rubber cove base	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6		2	Tan mastic	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6	CC2R6-3-02	1	3" white painted rubber cove base	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6		2	Tan mastic	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6	CC2R6-3-03	1	3" white painted rubber cove base	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6		2	Tan mastic	Walls in bedrooms, hallway, living room, and dining room	Misc.		None Detected
Residence 6	CC2R6-4-01	1	Off-white joint compound	Walls throughout all rooms	Misc.		None Detected
Residence 6		2	Off-white thin material	Walls throughout all rooms	Misc.		None Detected
Residence 6		3	Off-white gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 6	CC2R6-4-02	1	Off-white joint compound	Walls throughout all rooms	Misc.	2%	Chrysotile
Residence 6		2	Beige thin material	Walls throughout all rooms	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Building	Sample ID	Layer	Sample Description	Material Location	AHERA Classification	Percent (%) Asbestos	Asbestos Type
Residence 6		3	Off-white gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 6	CC2R6-4-03	1	Off-white joint compound	Walls throughout all rooms	Misc.	3%	Chrysotile
Residence 6		2	Beige thin material	Walls throughout all rooms	Misc.		None Detected
Residence 6		3	Off-white gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 6	CC2R6-5-01	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 6		2	Beige fibrous material	Walls throughout all rooms	Misc.		None Detected
Residence 6	CC2R6-5-02	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 6		2	Beige gypsum wallboard	Walls throughout all rooms	Misc.		None Detected
Residence 6		3	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected
Residence 6	CC2R6-5-03	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 6	CC2R6-5-04	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 6	CC2R6-5-05	1	White spray-applied wall texture	Walls throughout all rooms	Surf.	2%	Chrysotile
Residence 6		2	Beige gypsum wallboard	Walls throughout all rooms	Misc.		None Detected
Residence 6		3	White gypsum wallboard with paper	Walls throughout all rooms	Misc.		None Detected

*Confirmed by layer via PLM Point Count at 1000 points; HSA: Material that is uniform in color, texture, general appearance, and construction and application date, Surf.: Surfacing material per AHERA, TSI: Thermal system insulation per AHERA, Misc.: Miscellaneous material per AHERA; Layers in bolded text are asbestos-containing

Table 4-3 Visually Negative Materials

Table 3: Visually Negative Materials					
Building	HSA#	HSA Description	Material Location	AHERA Classification	Summarized Results
Control Center Building	CC2CCB-07	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative
Former School	CC2FS-07	Fiberglass batt insulation with foil backing	Above tongue and groove nailed-on ceiling tile	TSI	Visually Negative
Maintenance Building	CC2MB-08	Plastic-backed fiberglass batt insulation	Throughout unfinished interior walls and ceilings	TSI	Visually Negative
Residence 3	CC2R3-15	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative
Residence 3	CC2R3-16	Fiberglass batt insulation	Throughout attic	TSI	Visually Negative
Residence 4	CC2R4-12	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative
Residence 5	CC2R5-15	Blown-in cellulose insulation	Throughout attic	TSI	Visually Negative

TSI: Thermal System Insulation per AHERA; HSA: Homogenous Sampling Area



Table 4-4 Lead Paint Sample Results

Table 4: Lead Paint Sample Results					
Building	Sample ID	Description	Substrate	Location	Results in (mg/kg)
Above Ground Storage Tank	CC2AST-Pb1-01	White paint	Concrete	Above ground concrete casings	<52
Control Center Building	CC2CCB-Pb1-01	Tan paint	Metal	Exterior metal siding	100
Diversion Dam	CC2DD-Pb1-01	Gray paint	Metal	Handrails throughout CopCo No. 2 Dam and Headgate	3,100
Emergency Spill Equipment Shed	CC2ES-Pb1-01	Tan paint	Wood	Throughout exterior siding	<64
Former Bunkhouse	CC2FBH-Pb1-01	Light green paint	Wood	Wood walls throughout interior	2,700
Former Bunkhouse	CC2FBH-Pb2-01	White paint on green paint	Wood	Throughout exterior siding	1,800
Former Bunkhouse	CC2FBH-Pb3-01	Brown paint	Wood	Wood trim and eaves throughout	<64
Former Cookhouse	CC2FCH-Pb1-01	White paint	Wood	Throughout interior wood walls	990
Former School	CC2FS-Pb1-01	Gray paint	Wood	Throughout exterior wood siding	14,000
Fuel Shed	CC2FSH-Pb1-01	Off-white paint	Metal	Exterior siding of fuel shed	<57
Hazardous Waste Storage	CC2HWS-Pb1-01	White paint	Concrete	Above ground concrete casings	2,500
Maintenance Building	CC2MB-Pb1-01	White paint	Gypsum wallboard	Interior walls	<51
Maintenance Storage Building	CC2MSB-Pb1-01	Tan paint	Wood	Throughout exterior wood siding	<89
Penstocks	CC2P-Pb1-01	Grayish/silver paint	Steel	Penstocks	<53
Powerhouse	CC2PH-Pb1-01	White paint	Concrete	Throughout basement walls and floor	52
Powerhouse	CC2PH-Pb2-01	Gray paint	Steel	Stroll case piping in basement	510
Powerhouse	CC2PH-Pb3-01	Orange paint	Steel	On mechanical equipment in basement	130,000
Powerhouse	CC2PH-Pb4-01	Gray paint	Steel	Steel column beams on main level	120,000
Powerhouse	CC2PH-Pb5-01	Beige paint	Concrete	Walls of storage, office, and work rooms on main level	1,000
Residence 3	CC2R3-Pb1-01	Dark green paint	Wood	Throughout exterior wood siding	56,000
Residence 3	CC2R3-Pb2-01	Light green paint	Wood	Throughout exterior trim	120
Residence 3	CC2R3-Pb3-01	White paint	Wood	Exterior door and trim	76,000

<: Below the reporting limit

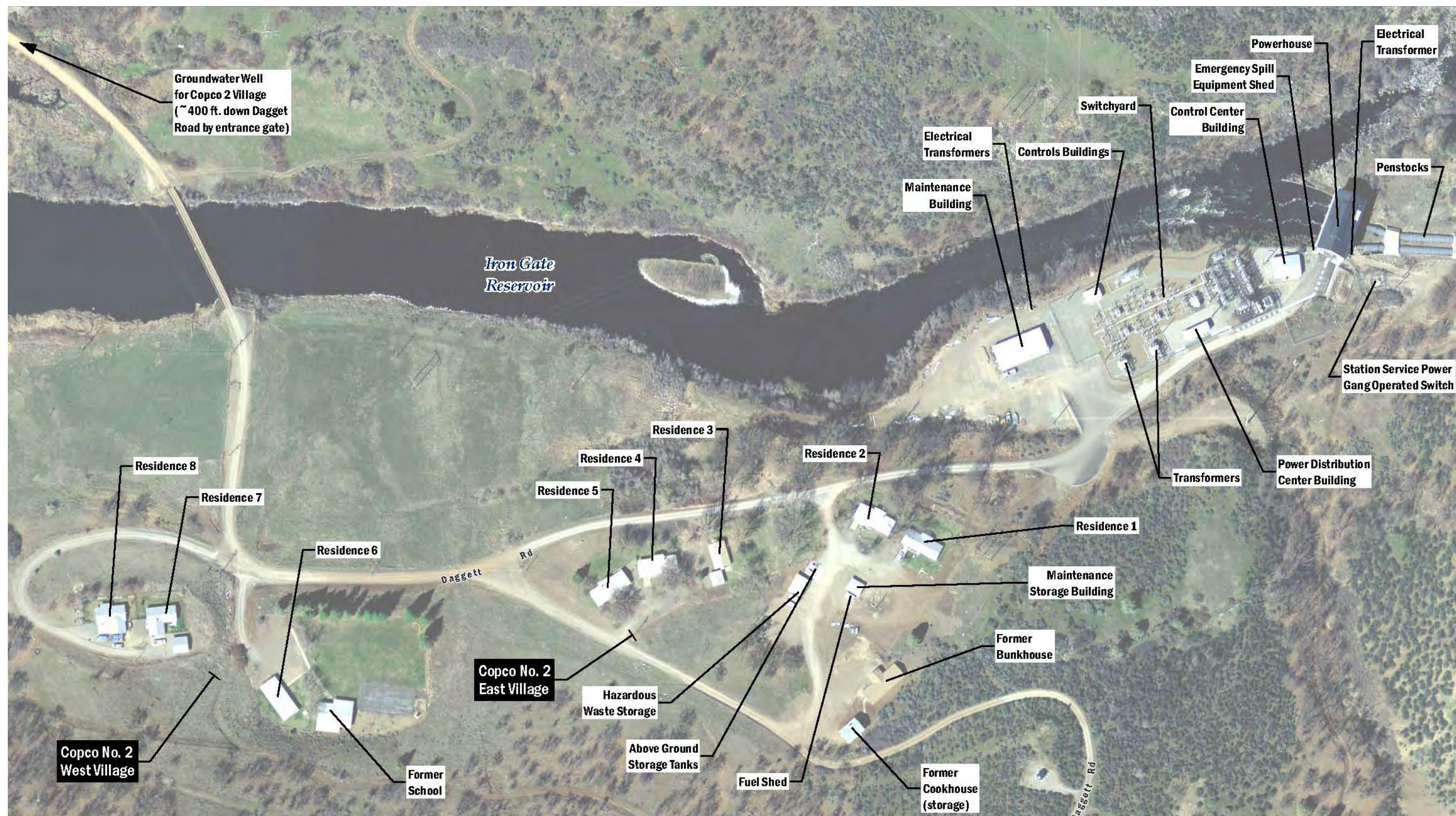
Table 4: Lead Paint Sample Results					
Building	Sample ID	Description	Substrate	Location	Results in (mg/kg)
Residence 3	CC2R3-Pb4-01	White paint	Gypsum wallboard	Throughout exterior walls	<50
Residence 4	CC2R4-Pb1-01	Blue paint	Wood	Throughout exterior wood siding	4,500
Residence 4	CC2R4-Pb2-01	White paint	Wood	Throughout exterior wood trim	330
Residence 4	CC2R4-Pb3-01	White paint	Gypsum wallboard	Throughout interior walls	<54
Residence 4	CC2R4-Pb4-01	Yellow paint	Gypsum wallboard	Interior walls	700
Residence 5	CC2R5-Pb1-01	Light brown paint	Wood	Throughout exterior wood siding	1,600
Residence 5	CC2R5-Pb2-01	White paint	Wood	Throughout exterior wood trim	74
Residence 5	CC2R5-Pb3-01	White paint	Gypsum wallboard	Throughout all interior walls	180

<: Below the reporting limit

Table 4-5 Universal Waste Inventory

Table 5: Universal Waste Inventory	
Other Regulated Building Materials Description	Approximate Quantity
Mercury-containing fluorescent light tubes (4' length)	96
Mercury-containing fluorescent light tubes (8' length)	61
Magnetic light ballasts	107
HID lamps	10
Mercury-containing switches, controls, and recorders	None observed

APPENDIX A FIGURES



Job No. 60537920

AECOM

Figure 1
Copco No. 2
Aerial Site Photo

Copco No. 2 Development
Hornsbrook, CA

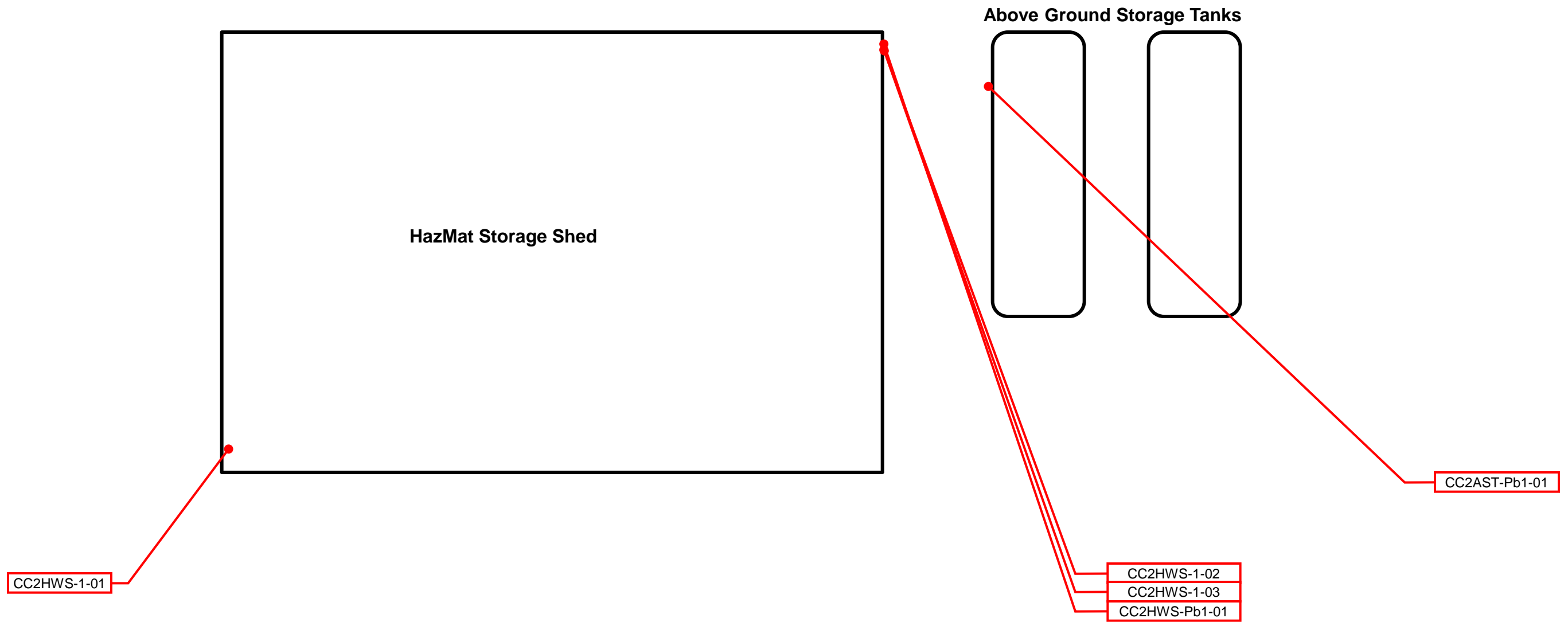


Job No. 60537920

AECOM

Figure 2
Copco No. 2
Aerial Site Photo

Copco No. 2 Development
Hornsbrook, CA



Legend
 CC2HWS – HSA# – ## = Asbestos sample location
 CC2HWS – Pb# – ## = Lead paint sample location
 CC2AST – Pb# – ## = Lead paint sample location

Job No. 60537920 Drawing Not to Scale – Schematic Only

Figure 3
Asbestos and Lead Sample Locations
Above Ground Storage Tanks and HazMat Storage Shed

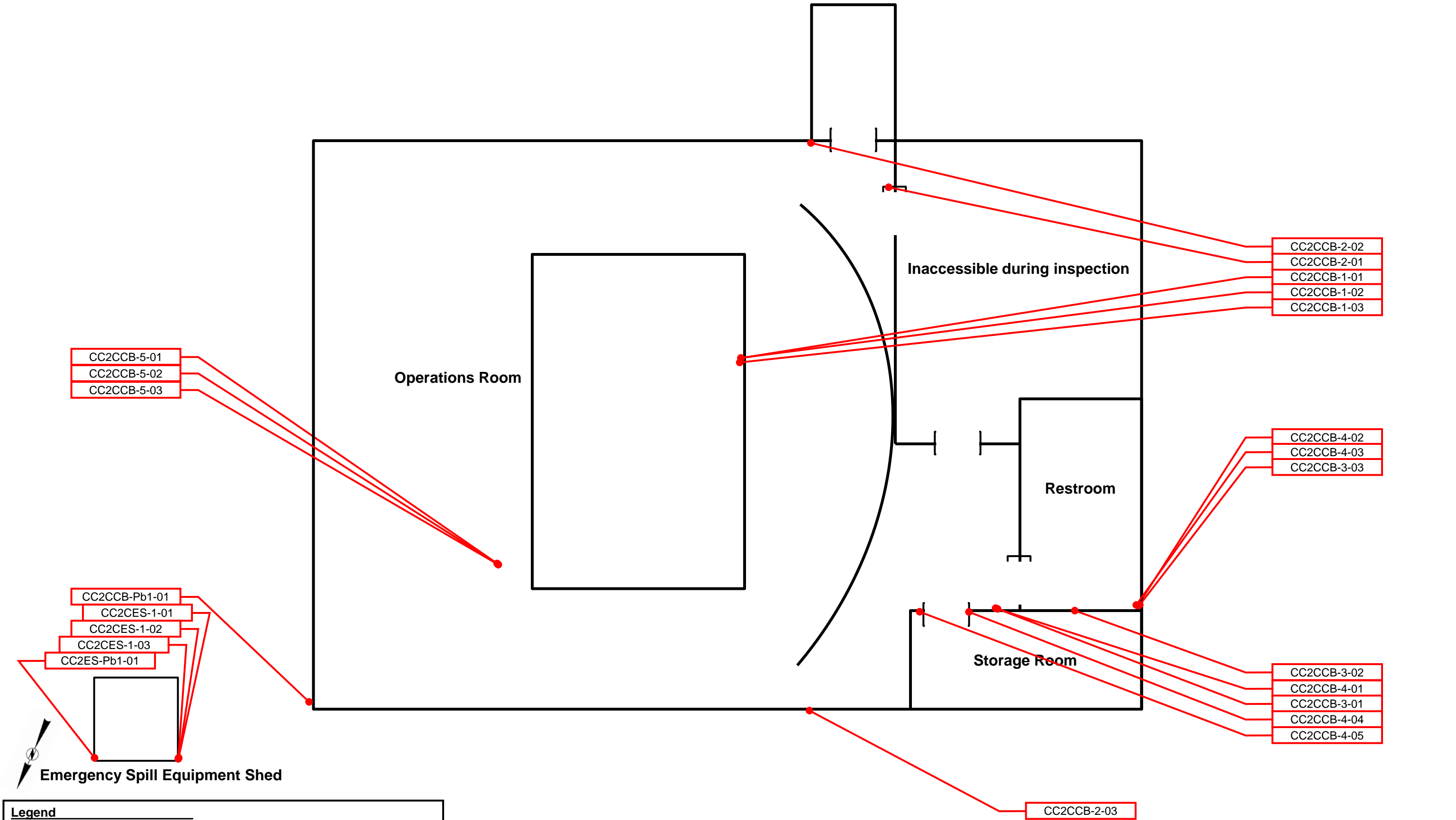
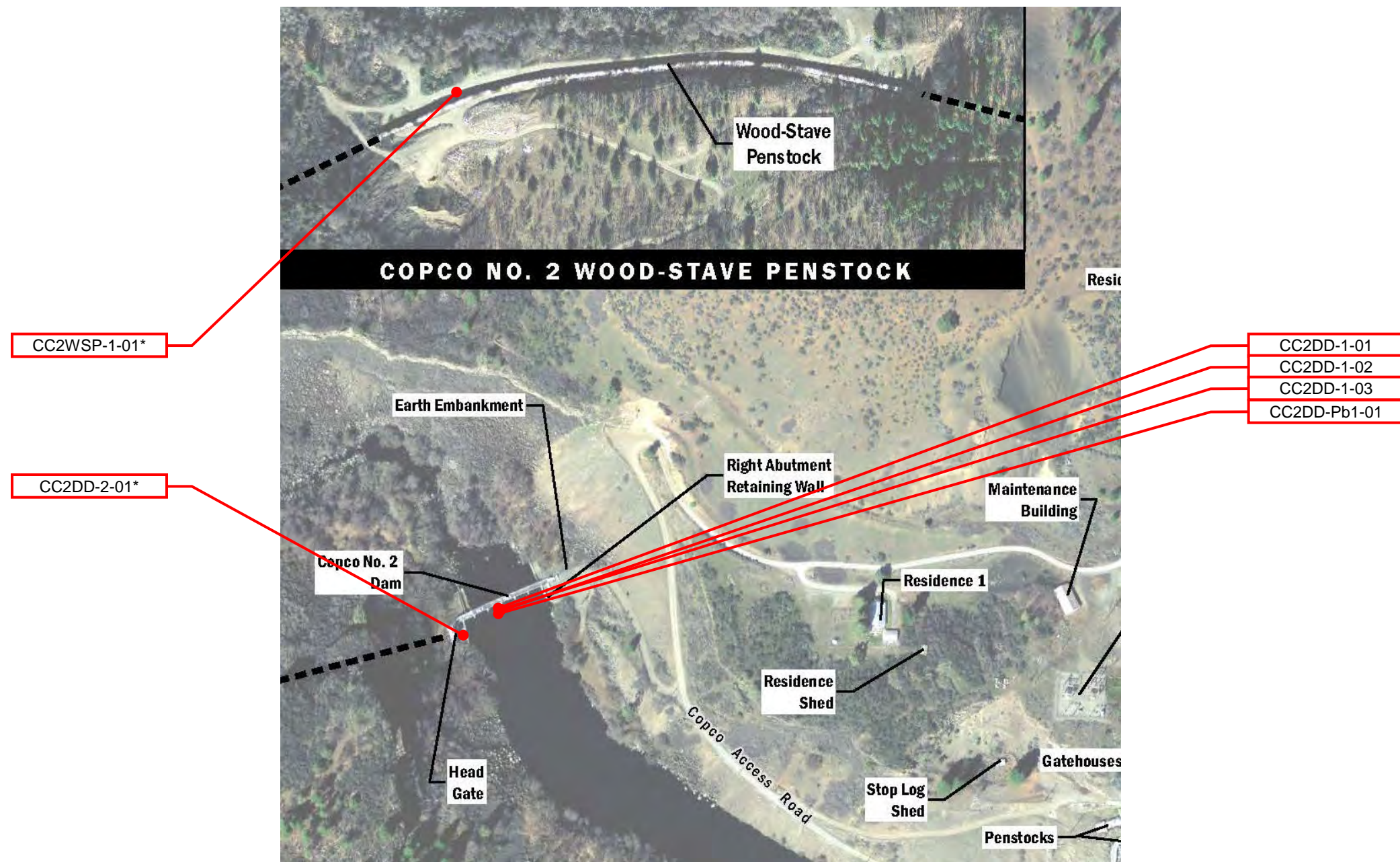


Figure 4
Asbestos and Lead Sample Locations
Control Center Building and Emergency Spill Equipment Shed



Legend
 CC2DD – HSA# – ## = Asbestos sample location
 CC2DD– Pb# – ## = Lead paint sample location
 CC2WSP– HSA# – ## = Asbestos sample location
 *Concrete sample analyzed via PLM CARB (Detection limit of .25%)

Job No. 60537920 Drawing Not to Scale – Schematic Only

AECOM

Figure 5
Asbestos and Lead Sample Locations
Copco 2 Diversion Development

Copco No. 2 Development
 Hornsbrook, CA

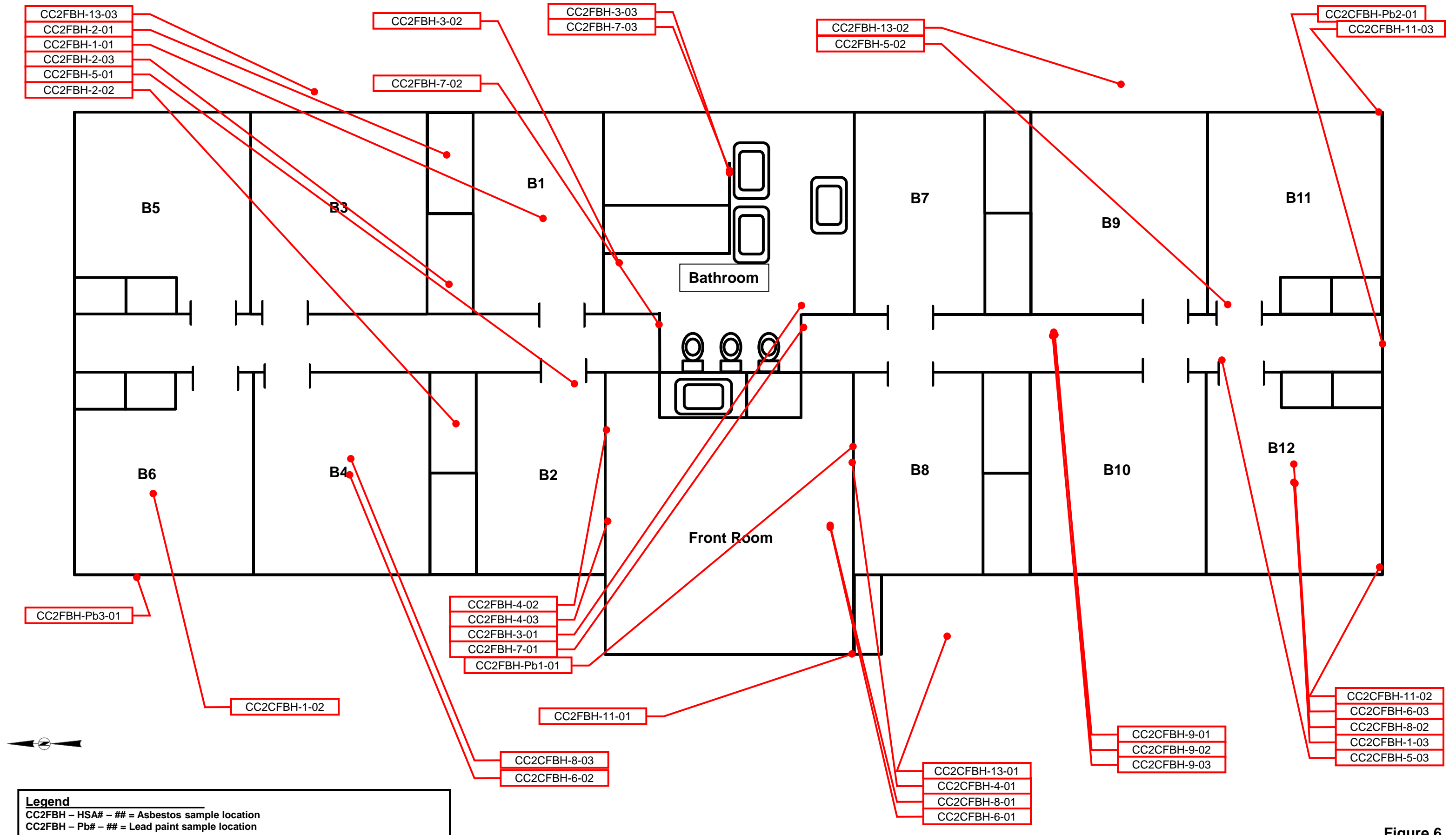
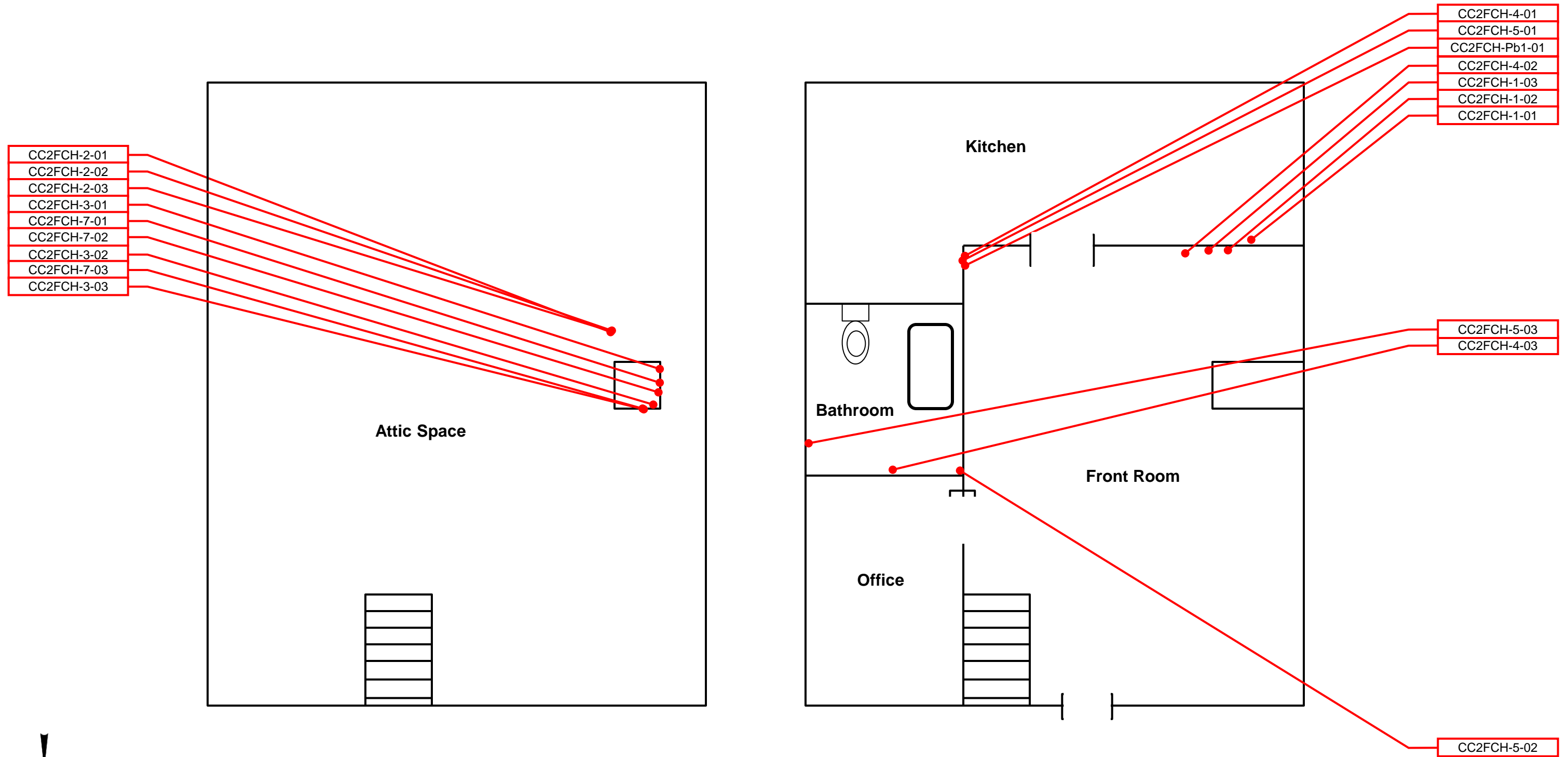


Figure 6
Asbestos and Lead Sample Locations
Former Bunkhouse



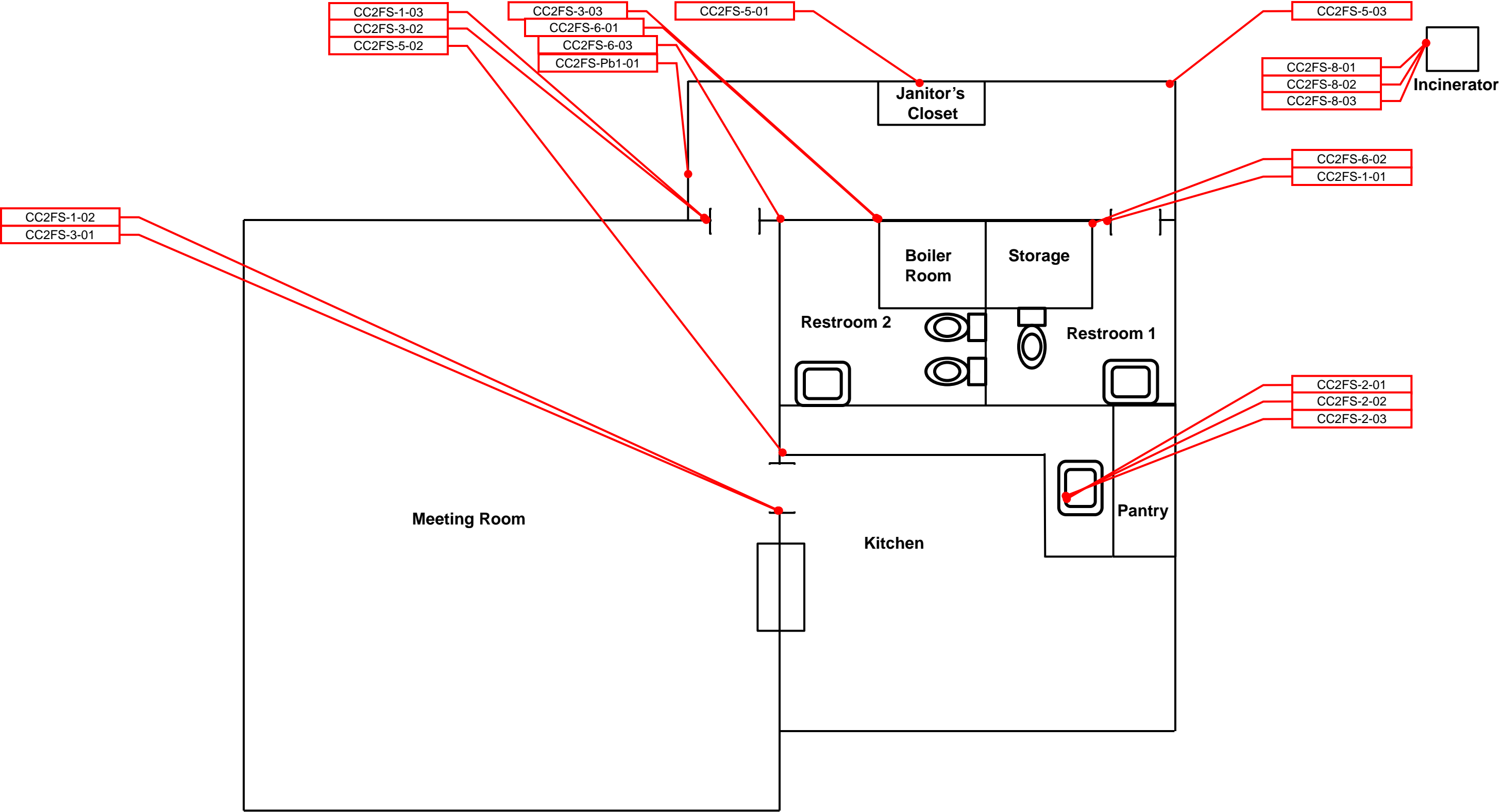
Legend
 CC2FCH – HSA# – ## = Asbestos sample location
 CC2FCH– Pb# – ## = Lead paint sample location

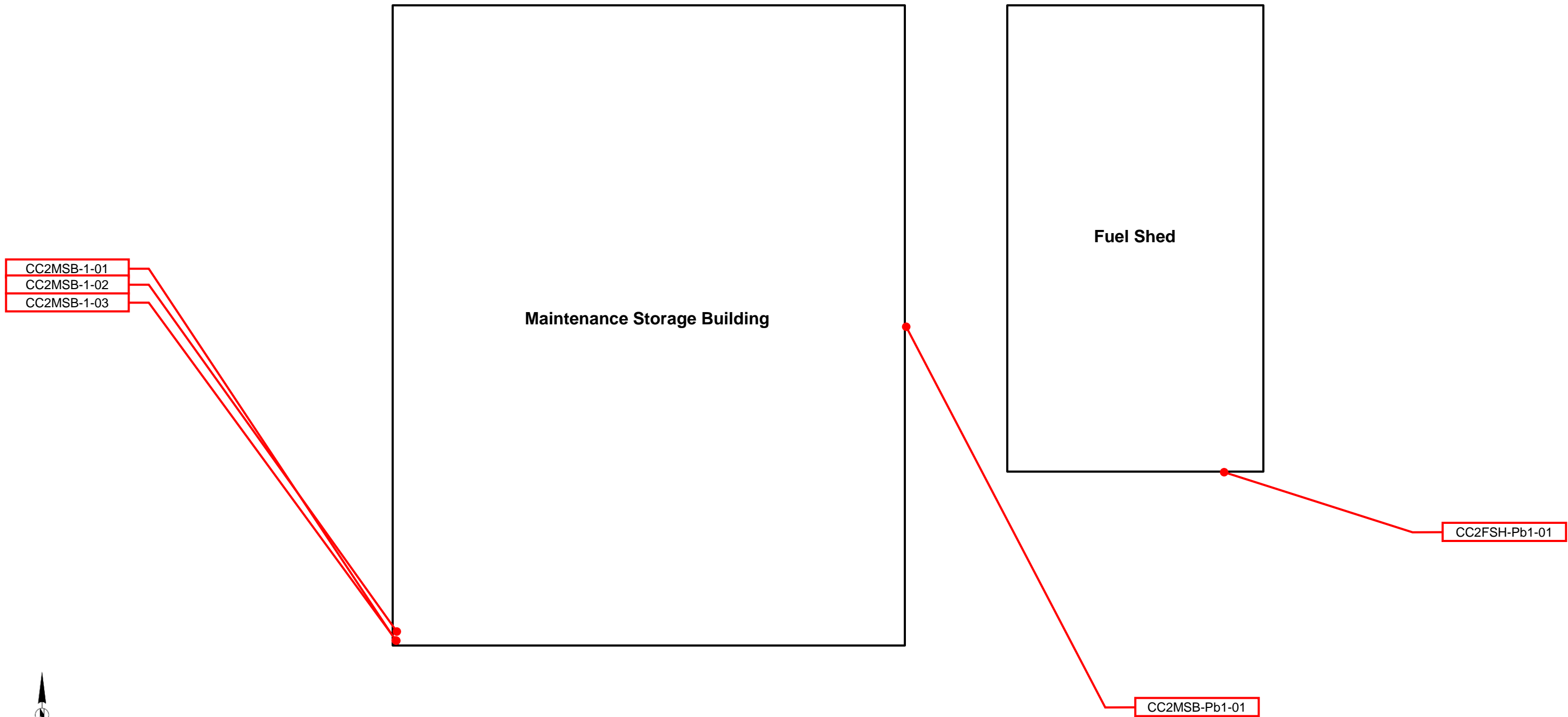
Figure 7
Asbestos and Lead Sample Locations
Former Cookhouse



Legend
CC2FS – HSA# – ## = Asbestos sample location
CC2FS – Pb# – ## = Lead paint sample location

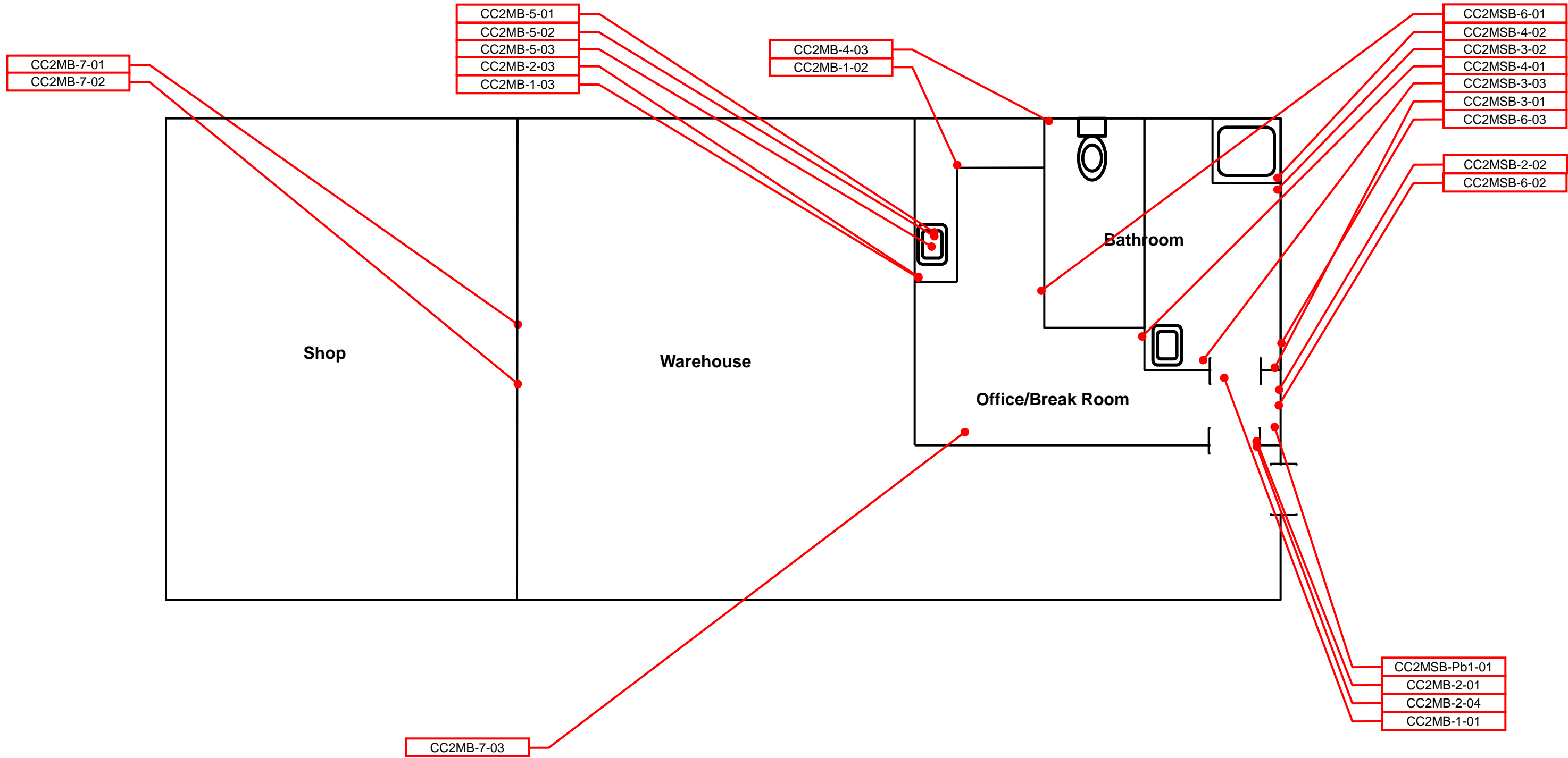
Figure 8
Asbestos and Lead Sample Locations
Former School





Legend
 CC2MSB – HSA# – ## = Asbestos sample location
 CC2MSB – Pb# – ## = Lead paint sample location
 CC2FSH – Pb# – ## = Lead paint sample location

Figure 9
Asbestos and Lead Sample Locations
Maintenance Storage Building and Fuel Shed



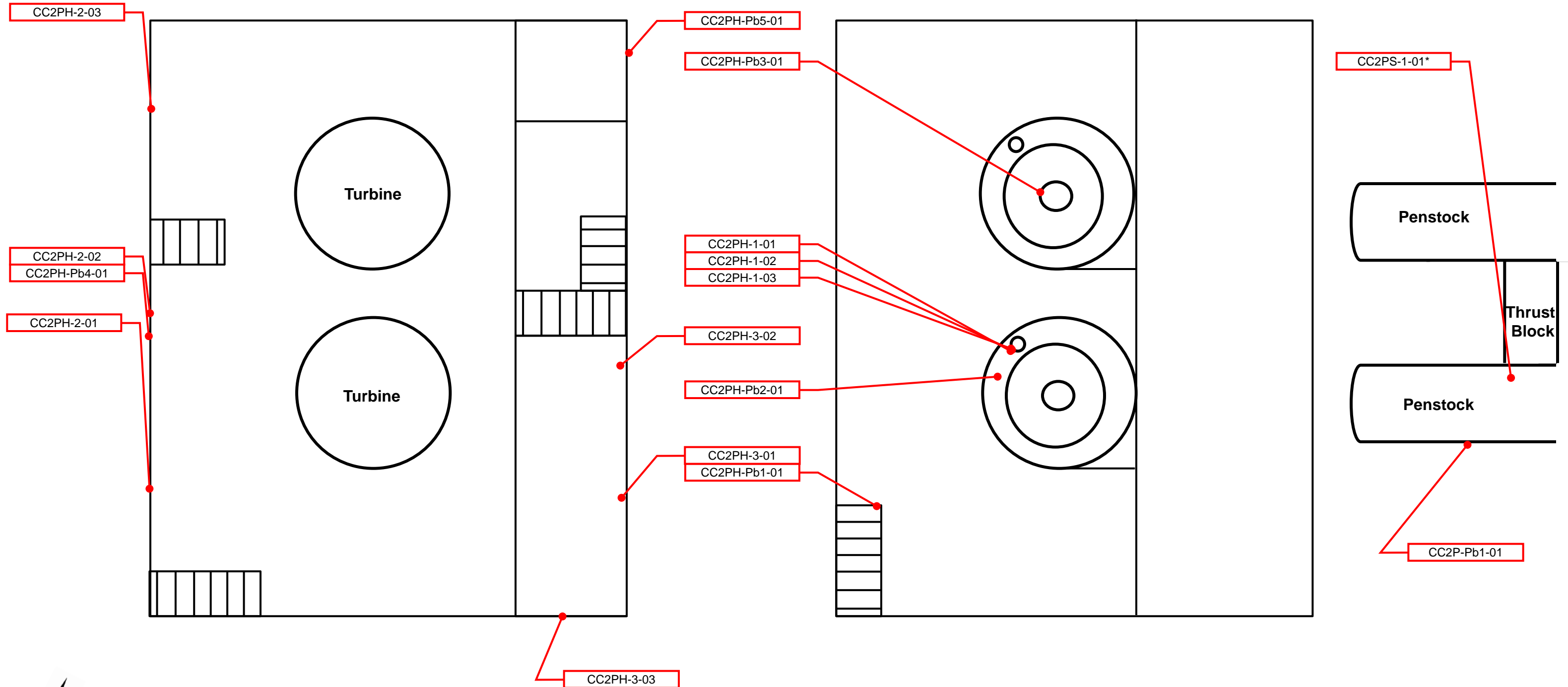
Legend
 CC2MSB – HSA# – ## = Asbestos sample location
 CC2MSB – Pb# – ## = Lead paint sample location
 CC2FSH – Pb# – ## = Lead paint sample location

Job No. 60537920 Drawing Not to Scale – Schematic Only

Figure 10
Asbestos and Lead Sample Locations
Maintenance Building

Copco 2 Powerhouse Main Floor

Copco 2 Powerhouse Basement



Legend
 CC2PH - ## - ## = Asbestos sample location
 CC2PH - Pb# - ## = Lead paint sample location
 *Concrete sample analyzed via PLM CARB (Detection limit of .25%)

Job No. 60537920 Drawing Not to Scale – Schematic Only

Figure 11
Asbestos and Lead Sample Locations
Powerhouse and Penstocks

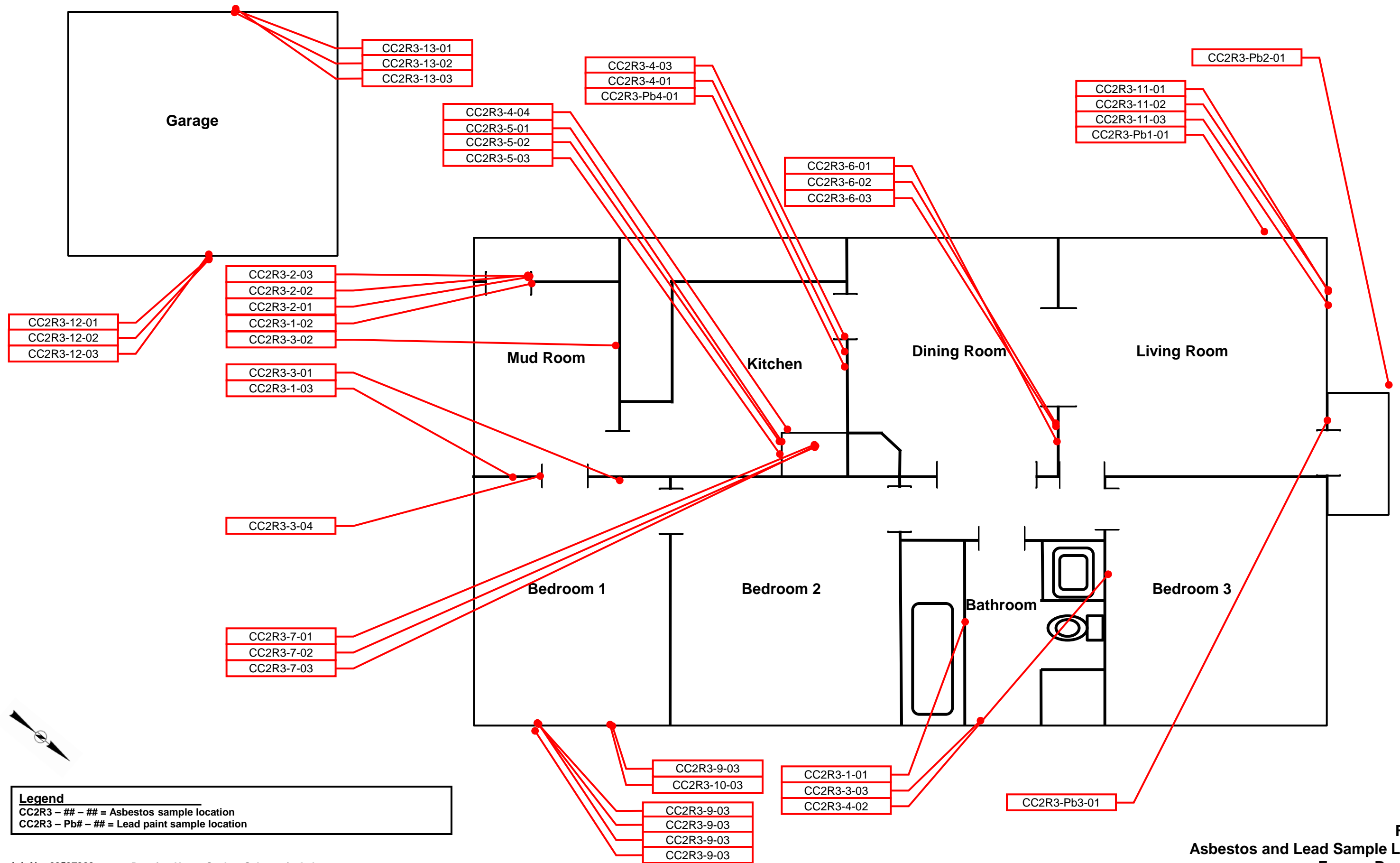


Figure 12
Asbestos and Lead Sample Locations
Former Residence 3

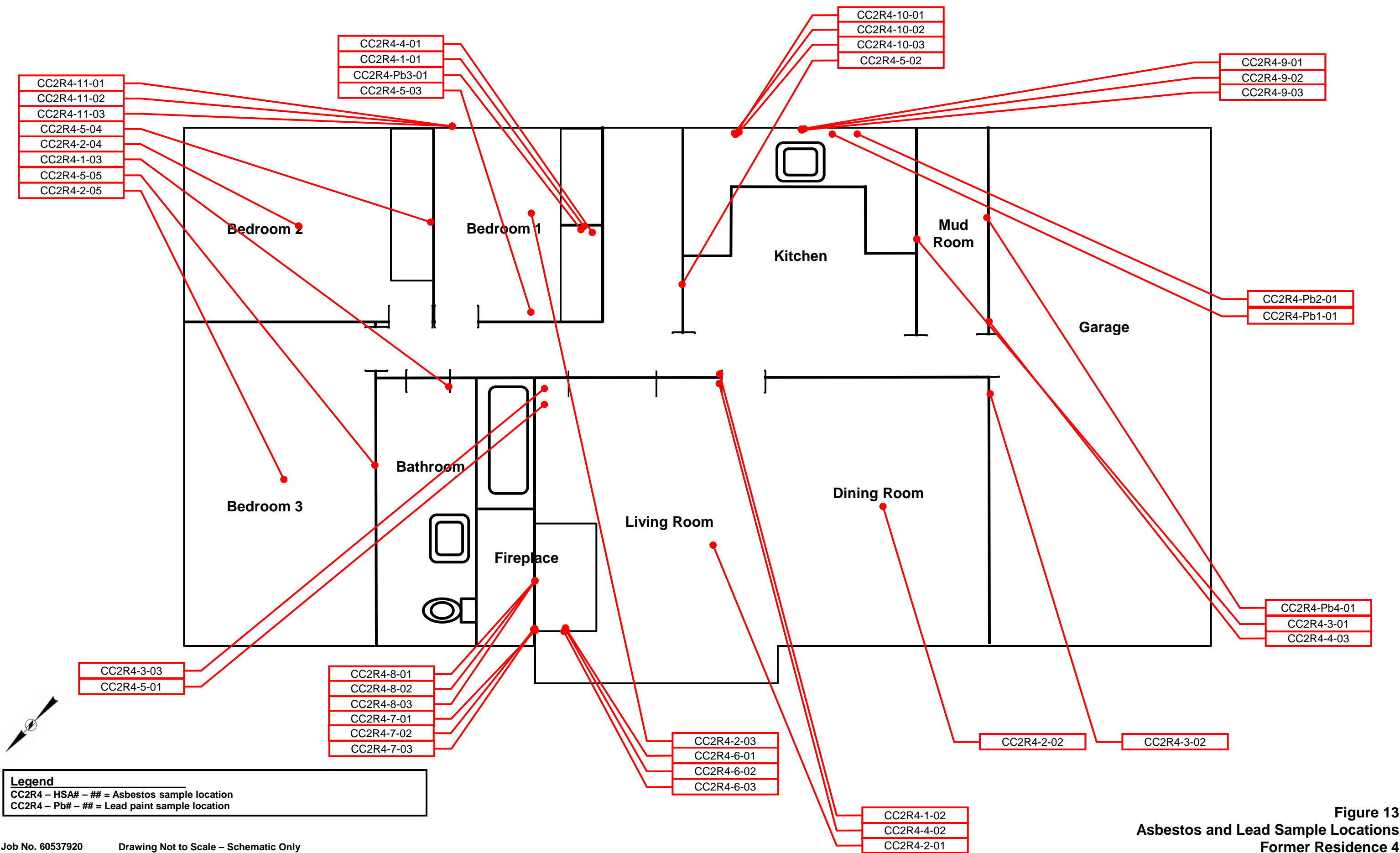


Figure 13
Asbestos and Lead Sample Locations
Former Residence 4

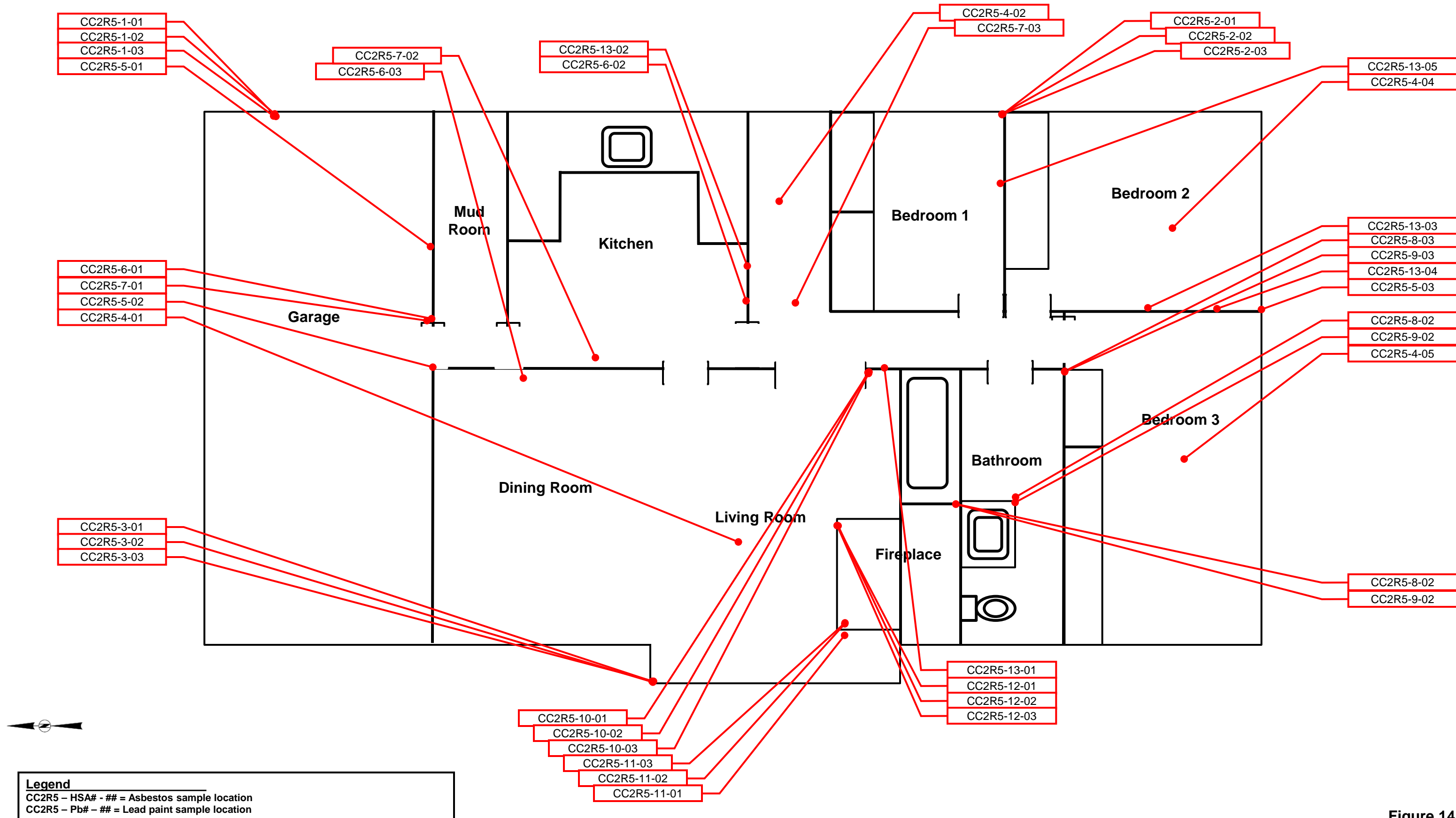
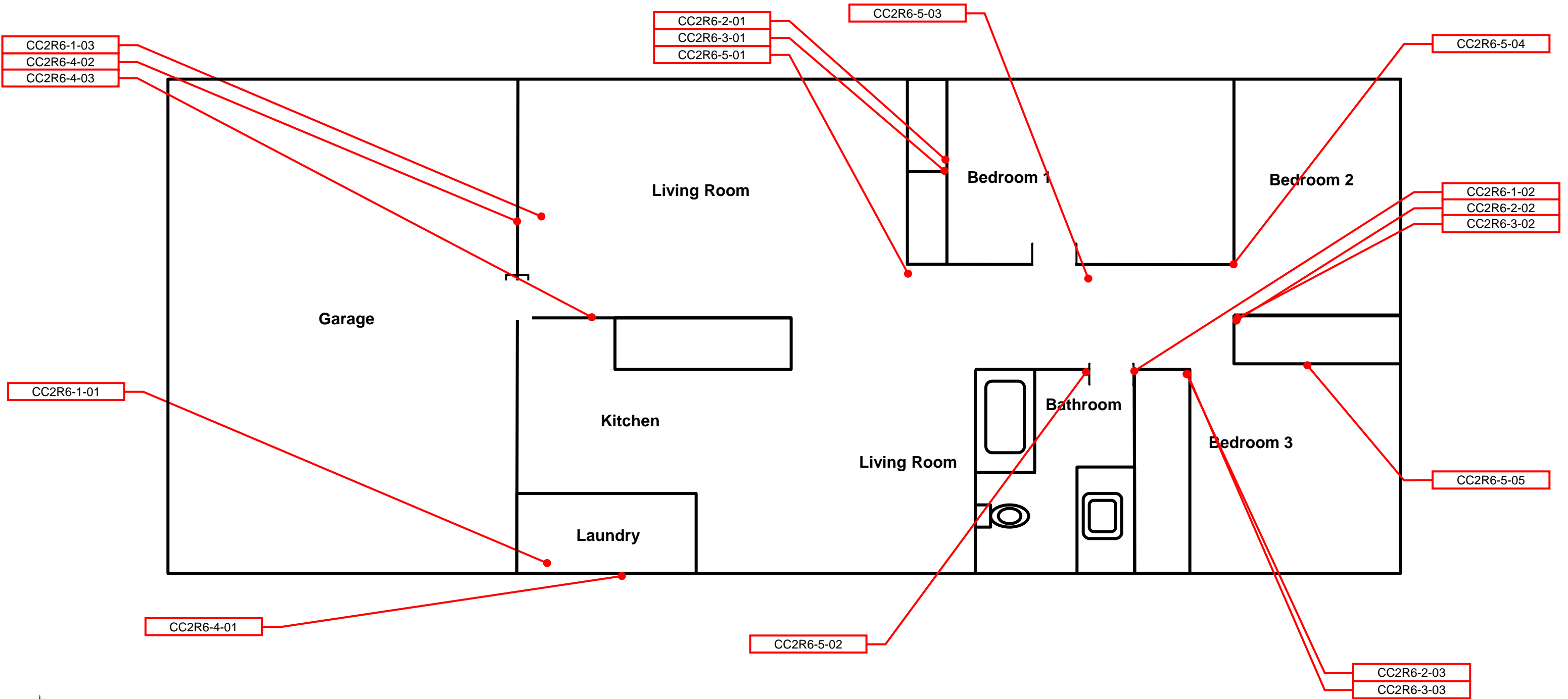


Figure 14
Asbestos and Lead Sample Locations
Former Residence 5



Legend
 CC2R6 – HSA# - ## = Asbestos sample location
 CC2R6 – Pb# – ## = Lead paint sample location

Figure 15
Asbestos Sample Locations
Residence 6

Legend



CC2CCB-06: Assumed asbestos-containing grouts and mastics associated with ceramic tiles (M)

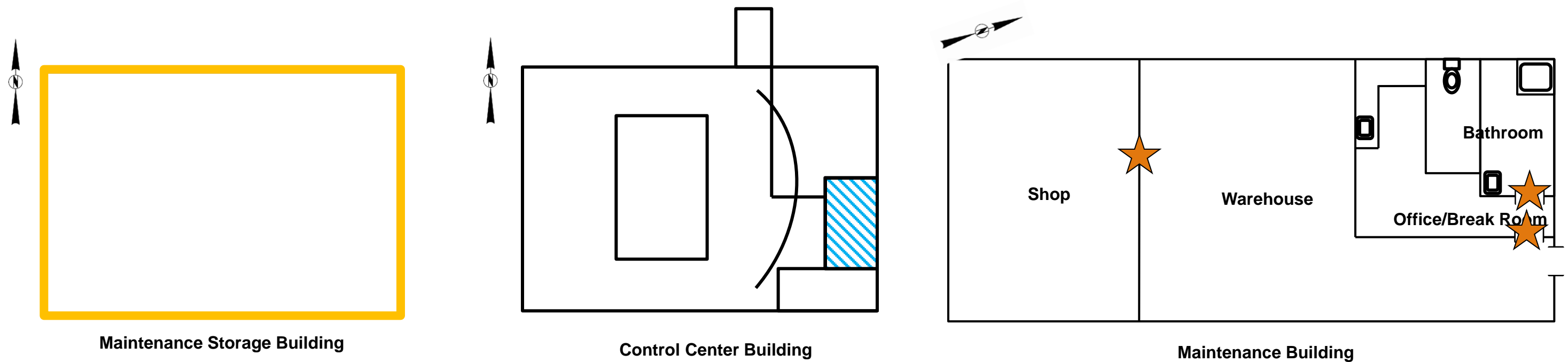


CC2MSB-02: Assumed asbestos-containing vapor barrier paper underneath exterior siding (M)



CC2MB-08: Assumed asbestos-containing metal-clad fire door insulation (M)

Drawing should be printed in color



Legend



CC2FBH-02: Assumed asbestos-containing 9”x9” off-white vinyl floor tile with gray and tan streak pattern and asbestos-containing black mastic (M) and CC2FBH-12 Assumed asbestos-containing roofing paper (M)



CC2FBH-14: Assumed asbestos-containing vapor barrier paper throughout exterior underneath wood siding (M)

Not shown: CC2FBH-10: Assumed asbestos-containing silver woven fiberglass electrical wire insulation throughout (M)

Not shown: CC2FBH-13: Asbestos-containing brown/gray cementitious material debris scattered throughout exterior in landscaping cover rock (M)

Drawing should be printed in color

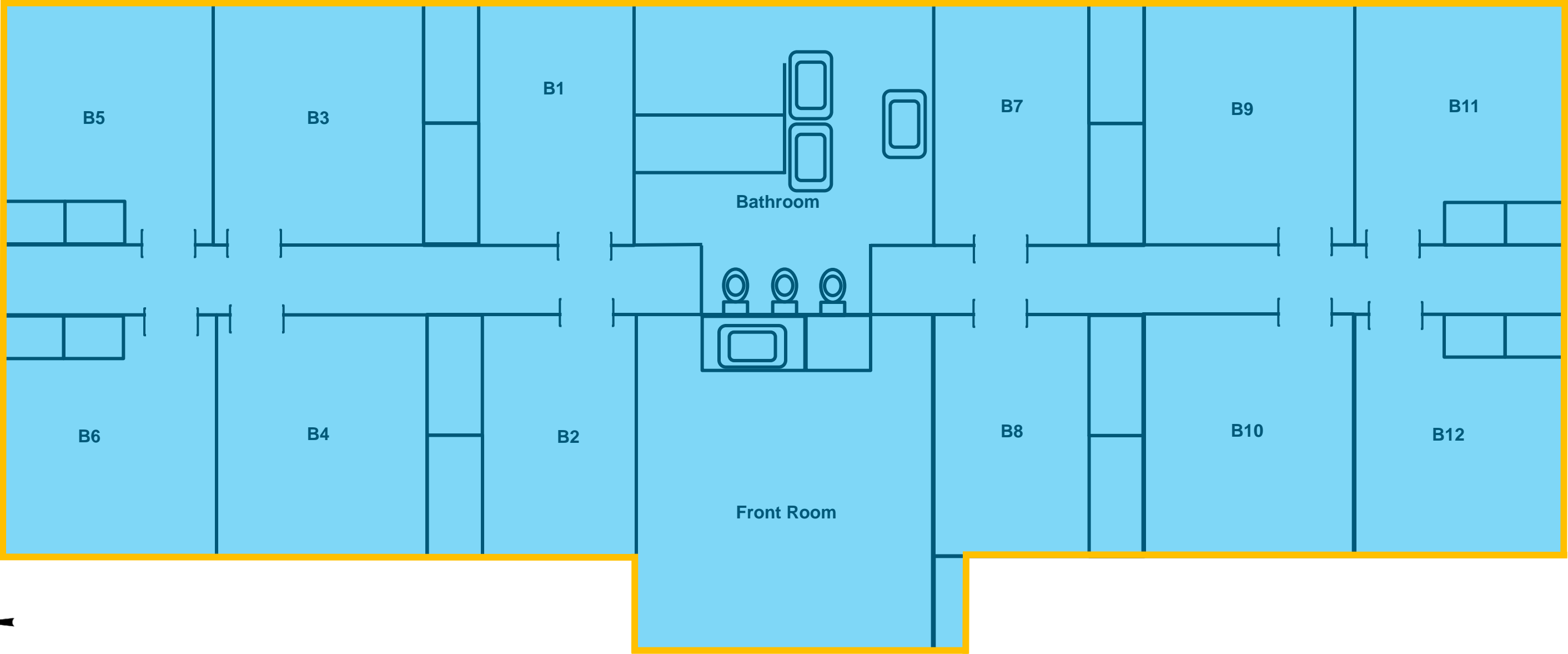









Figure 17
Approximate ACM Locations
Former Bunkhouse

Legend

-  CC2FS-02: Asbestos-containing gray sink undercoating (M)
-  CC2FS-04: Assumed asbestos-containing grouts and mastics associated with 4"x4" white ceramic counter tile (M)
-  CC2FS-06: Asbestos-containing white joint compound associated with white gypsum wallboard with paper (M)
-  CC2FS-03: Assumed asbestos-containing roofing paper (M)
-  CC2FS-10: Assumed asbestos-containing vapor barrier paper (M)
-  CC2FS-11: Assumed asbestos-containing mastic behind plastic wall panels in restrooms (M)
-  CC2FS-12: Assumed asbestos-containing mirror mastic (M)
- CC2FS-12: Assumed asbestos-containing mirror mastic (M)
- CC2FS-12: Assumed asbestos-containing mirror mastic (M)

Drawing should be printed in color

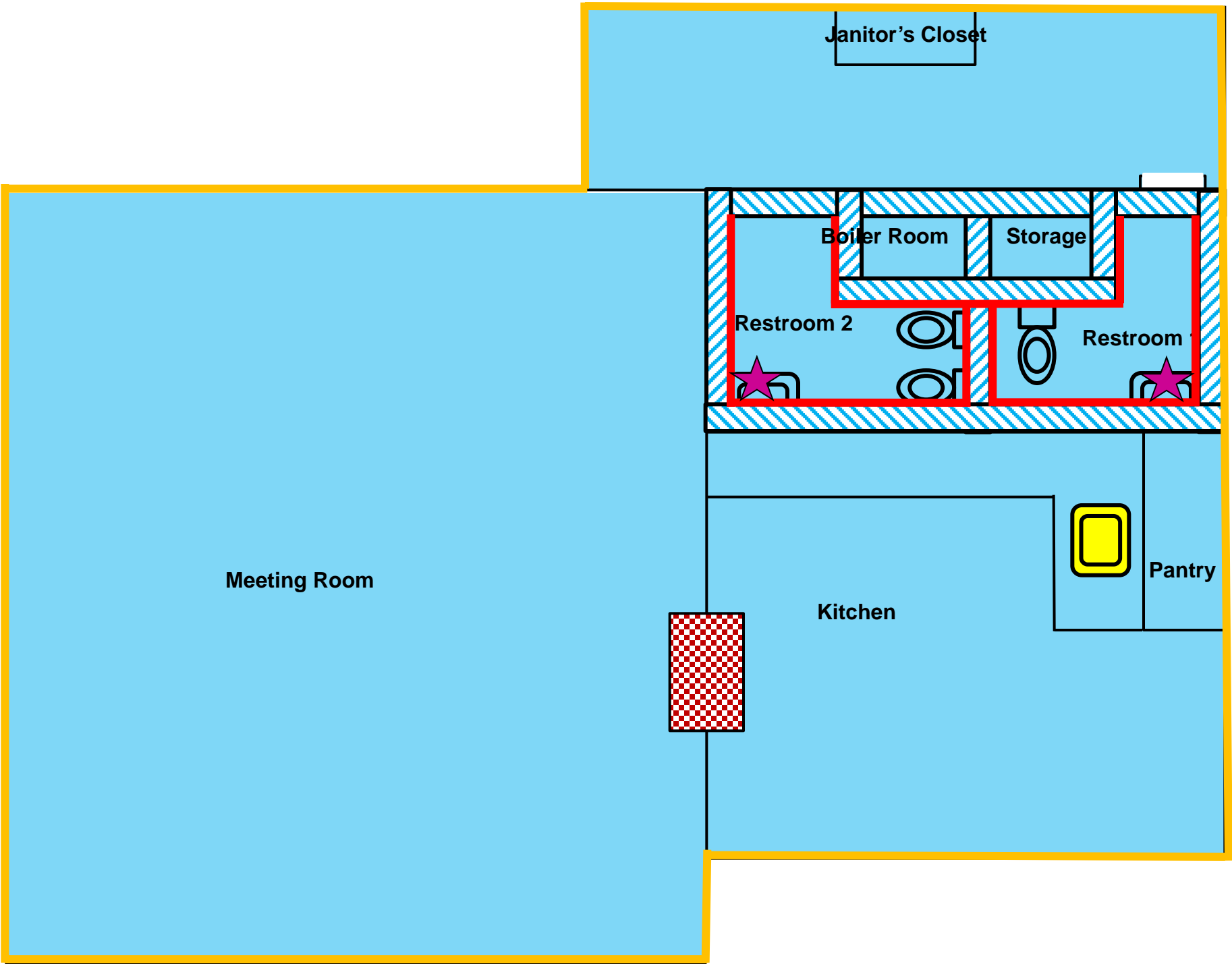
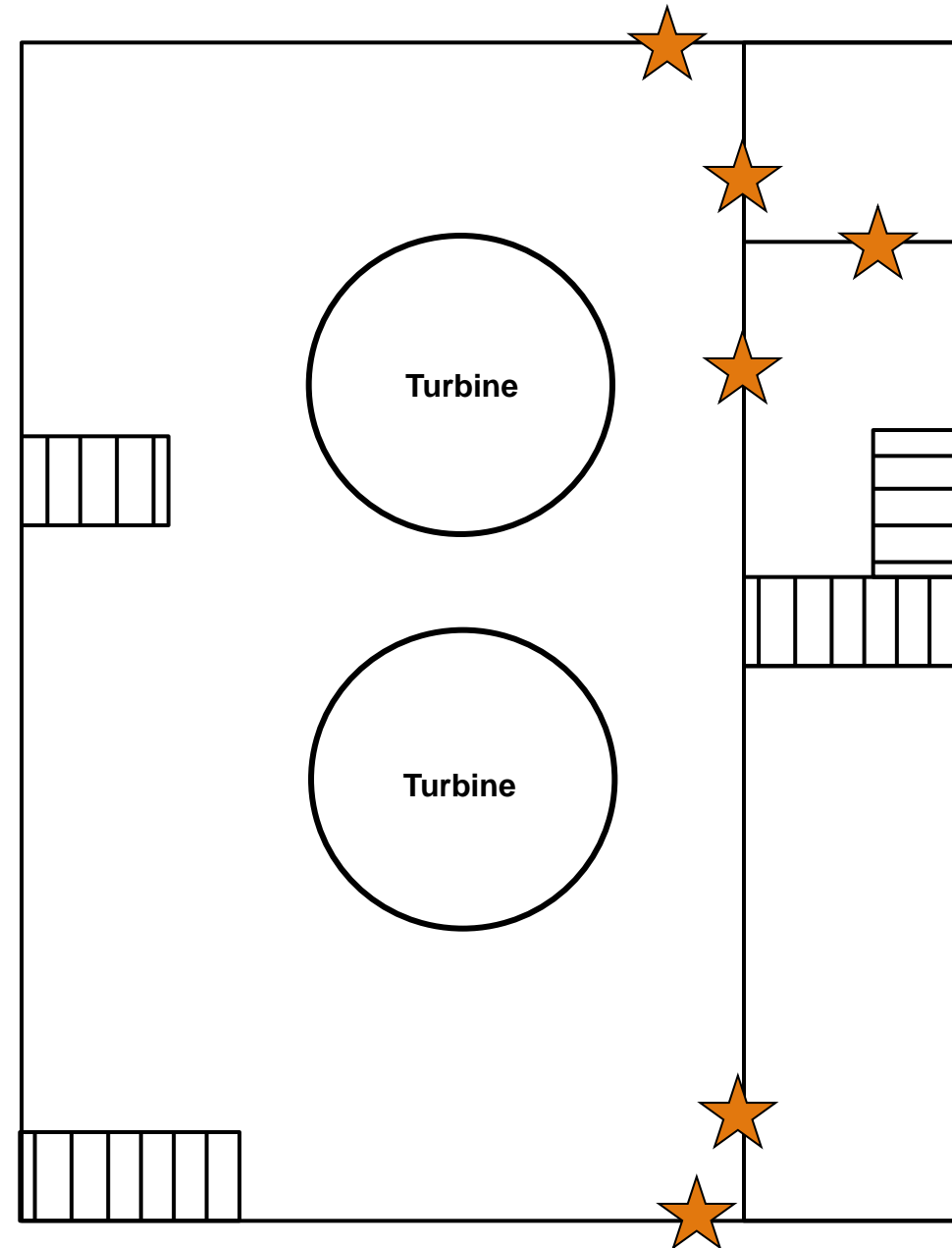
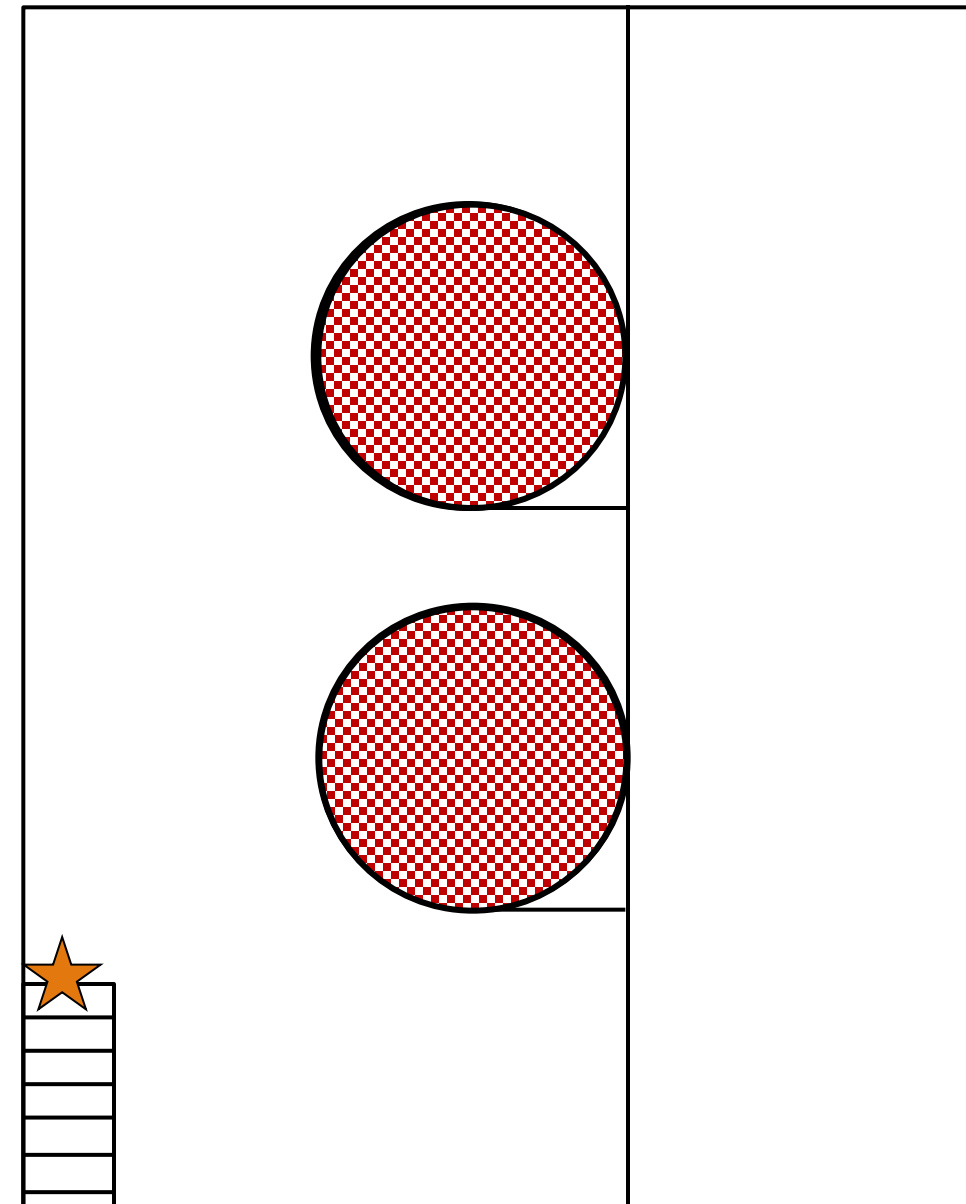


Figure 18
Approximate ACM Locations
Former School

Copco 2 Powerhouse Main Floor



Copco 2 Powerhouse Basement



Legend



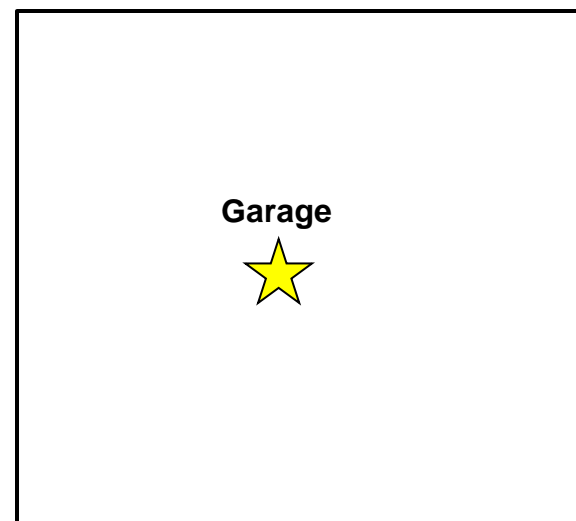
CC2PH-04: Assumed asbestos-containing wicket gate (M)



CC2PH-05: Assumed asbestos-containing metal-clad fire door insulation (M)

Drawing should be printed in color





Legend



CC2R3-01: Off-white vinyl floor sheeting with gray mosaic pattern with paper backing and mastic (M)



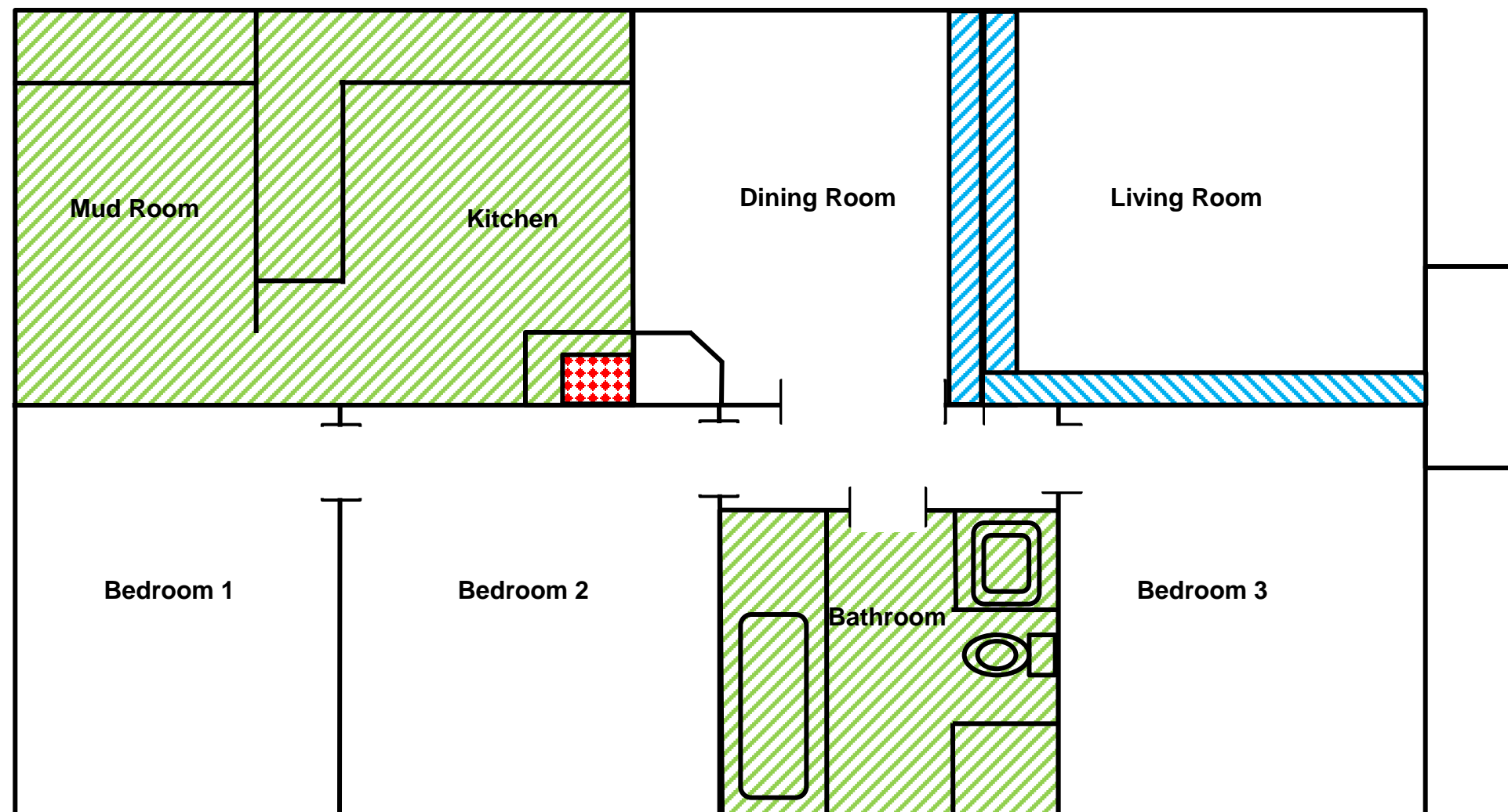
CC2R3-06: Asbestos-containing black mastic behind wood wall paneling (M)

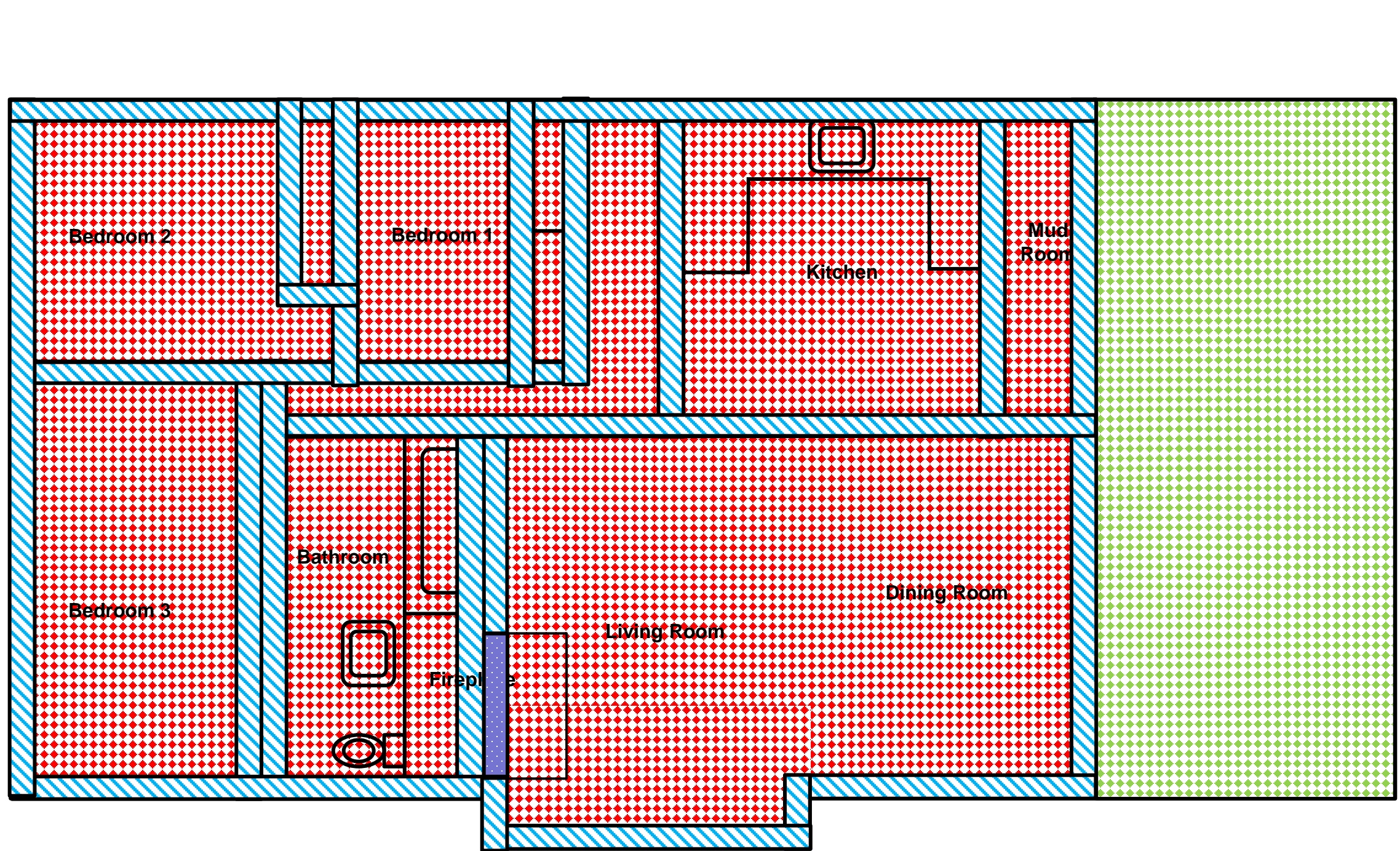


CC2R3-08: Assumed asbestos-containing chimney grout (M)







CC2R3-14: Assumed asbestos-containing electrical panel backing in older electrical panels (M)





Legend

-  CC2R4-02: Asbestos-containing white spray applied acoustical ceiling texture (S)
-  CC2R4-03 and CCR4-05: Asbestos-containing white joint compound and white spray-applied wall texture associated with white gypsum wallboard with paper (S)
-  CC2R4-08: Gray cement asbestos board fireplace panel (M)
-  CC2R4-10: Cement asbestos-board roof shingles throughout entire roof (M)



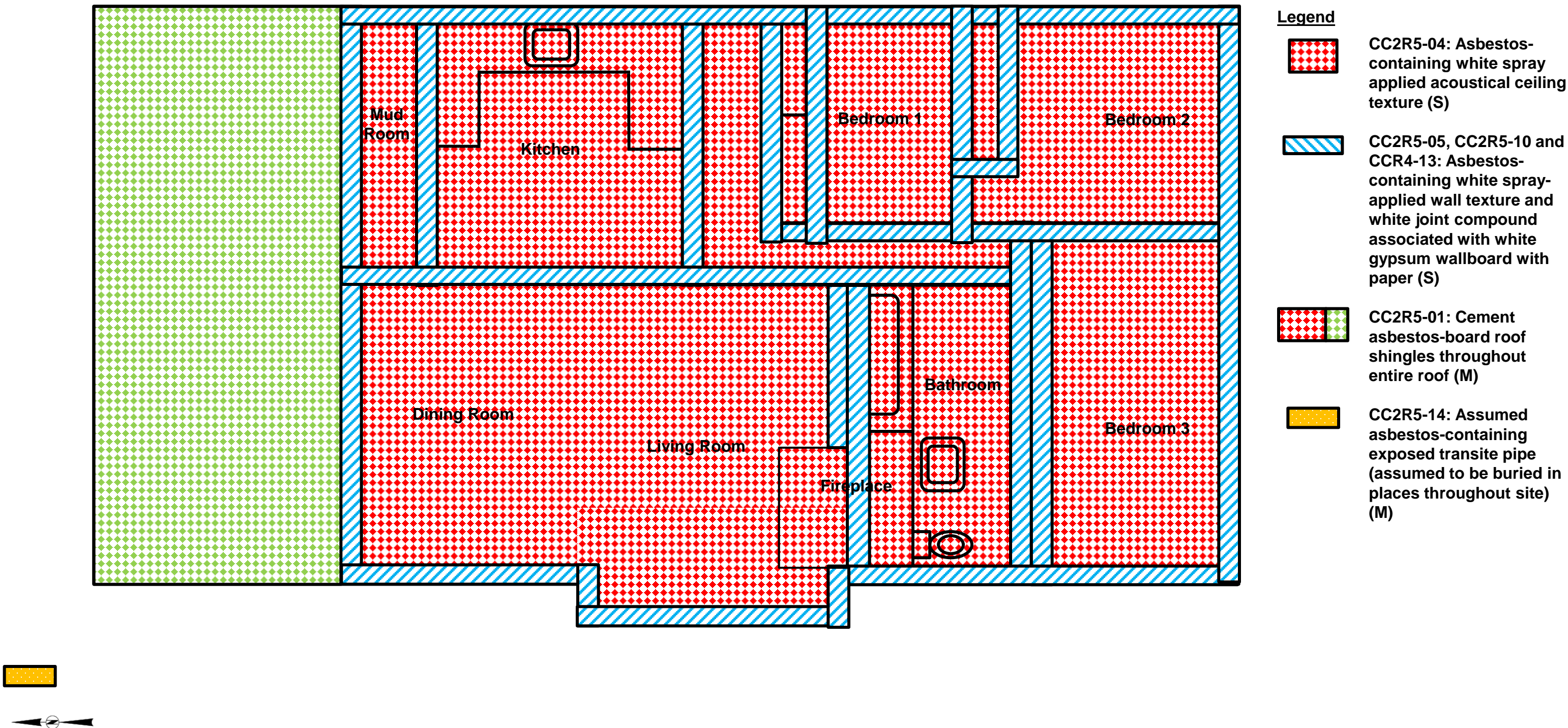
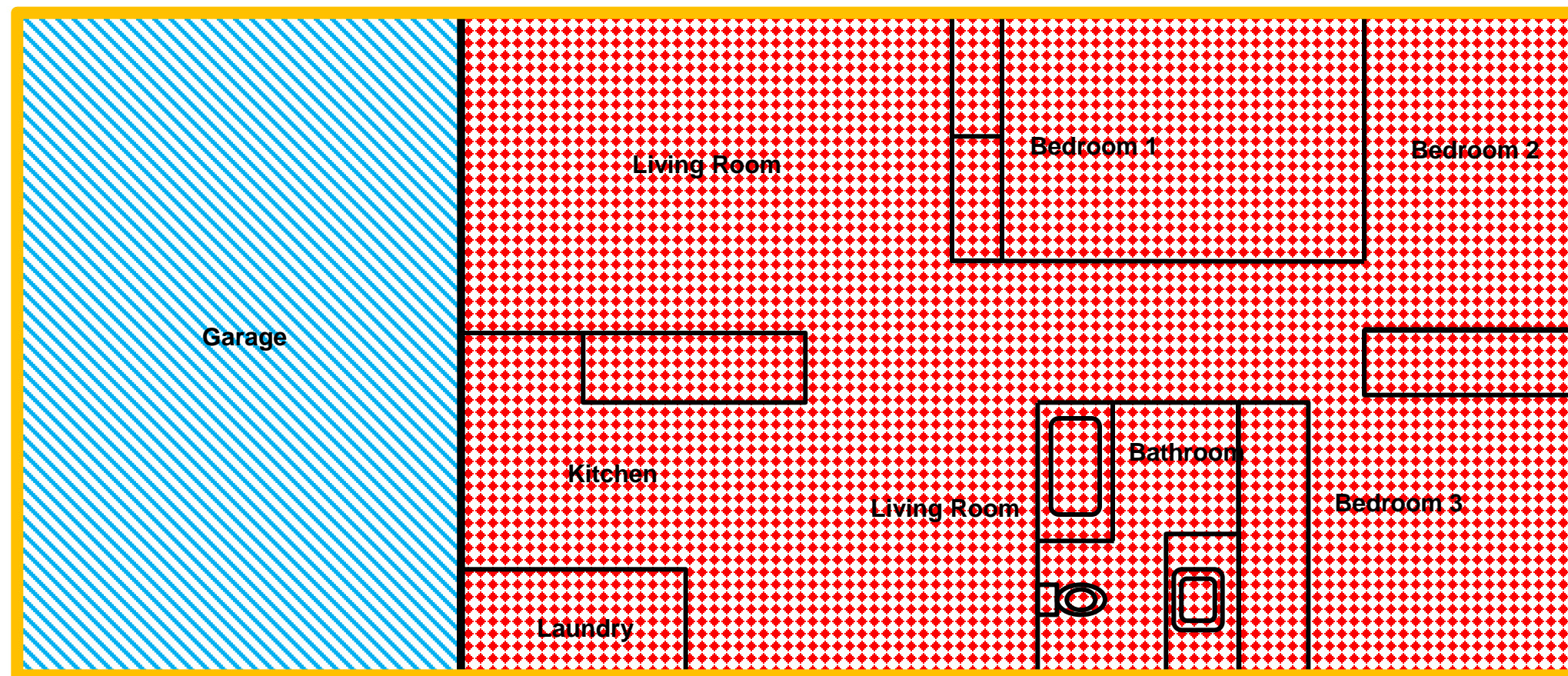


Figure 22
Asbestos and Lead Sample Locations
Former Residence 5



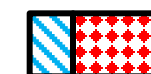
Legend



CC2R6-05: Asbestos-containing white spray-applied wall and ceiling texture (S) on top of CC2R6-04: Asbestos-containing joint compound and gypsum wallboard (M)



CC2R6-04: Asbestos-containing joint compound and gypsum wallboard (M)



CC2R6-06: Assumed asbestos-containing roofing paper (M) (throughout)



CC2R6-06: Assumed asbestos-containing vapor barrier paper underneath wood siding (M)

Drawing should be printed in color



Legend

CC2R6 – HSA# - ## = Asbestos sample location
CC2R6 – Pb# – ## = Lead paint sample location

APPENDIX B HSA PHOTOLOGS

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Dam, Above Ground
Storage Tank

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Above Ground
Storage Tank



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Control
Center Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Control Center
Building



**Photo No./
Material ID:**

CC2CCB - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Control Center
Building/
Throughout roof

***Description (by layer):**

- 1: Off-white vinyl floor sheeting
with tan terrazzo pattern (M)
- 2: Gray paper backing with
yellow mastic (M)



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Control Center Building	Project No. 60567920
--	--	--------------------------------


Photo No./ Material ID:	Date:	
CC2CCB - 02	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Control Center Building/ Walls in operations room		
*Description (by layer): 1: 4" brown rubber cove base (M) 2: Yellow mastic (M) 3: Silver paint (M)		

Photo No./ Material ID:	Date:	
CC2CCB - 03	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Control Center Building/ Flooring in bathroom and storage closet		
*Description (by layer): 1: Off-white vinyl floor sheeting with square tile pattern (M) 2: Gray paper backing with yellow mastic (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2CCB Page 2 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Control
Center Building**Project No.**
60567920

Photo No./ Material ID: CC2CCB - 04	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Control Center Building/ Walls in bathroom and storage closet	
*Description (by layer): 1: 4" white vinyl cove base (M) 2: Off-white mastic (M)	



Photo No./ Material ID: CC2CCB - 05	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Control Center Building/ Throughout roof	
*Description (by layer): 1: Black rubbery material (M) 2: Yellow soft mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2CCB

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Control
Center Building

Project No.
60567920

**Photo No./
Material ID:**

CC2CCB - 06

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Control Center
Building/
Flooring in bathroom

***Description (by layer):**

**Assumed asbestos-containing
grouts and mastics associated
with ceramic tiles (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development; Controls
Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Controls Building



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Emergency Spill Equipment Shed

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Emergency Spill
Equipment Shed



**Photo No./
Material ID:**

CC2ES - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Emergency Spill
Equipment Shed/
Throughout roof

***Description (by layer):**

- 1: Black asphaltic roofing
shingles with granules (M)
- 2: Black asphaltic mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2ES Page 1 of 1 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Former Bunkhouse



**Photo No./
Material ID:**

CC2FBH - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former Bunkhouse/
Ceiling throughout Former
Bunkhouse

***Description (by layer):**

1: 12"x12" white glued-on ceiling
tile with pinholes (associated
with HSA 8 - brown glue dots)
(M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FBH Page 1 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

Photo No./ Material ID: CC2FBH - 02	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Flooring throughout all rooms except bathroom, underneath orange carpeting except in bunk room closets where there is no carpeting	
*Description (by layer): 1: 9"x9" off-white vinyl floor tile with gray and tan streak pattern (M) 2: Black asphaltic mastic (M)	



Photo No./ Material ID: CC2FBH - 03	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Flooring in bathroom	
*Description (by layer): 1: Light blue linoleum with pink and gray marble pattern (M) 2: Tan woven canvas backing with white mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FBH Page 2 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

Photo No./ Material ID: CC2FBH - 04	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Walls in front room	
*Description (by layer): 1: Dark brown rubber wall strips (M) 2: Brown brittle mastic (M)	



Photo No./ Material ID: CC2FBH - 05	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Carpet seam at tack down wood strips at base of doors throughout	
*Description (by layer): 1: Orange carpet mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FBH Page 3 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

Photo No./ Material ID: CC2FBH - 06	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Ceilings throughout, above 12"x12" white glued-on ceiling tiles	
*Description (by layer): 1: White gypsum wallboard with paper (M)	



Photo No./ Material ID: CC2FBH - 07	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Walls in bathroom	
*Description (by layer): 1: 4" black rubber cove base (M) 2: Brown brittle mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FBH Page 4 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

Photo No./ Material ID: CC2FBH - 08	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Associated with HSA 1, throughout all rooms	
*Description (by layer): 1: Dark brown glue dots (M)	



Photo No./ Material ID: CC2FBH - 09	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Insulation in attic	
*Description (by layer): 1: Black asphaltic material on paper (M) 2: Pink fibrous material (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

Photo No./ Material ID: CC2FBH - 10	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ In attic	
*Description (by layer): Assumed asbestos-containing silver woven fiberglass electrical wire insulation (M)	



Photo No./ Material ID: CC2FBH - 11	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Bunkhouse/ Throughout roof	
*Description (by layer): 1: Asphaltic roof shingles with granules (M) 2: Black asphaltic material (M) 3: Asphaltic roof shingles with granules (M) 4: Black asphaltic material (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FBH Page 6 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Former
Bunkhouse**Project No.**
60567920**Photo No./
Material ID:**

CC2FBH - 12

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Former Bunkhouse/
Throughout roof***Description (by layer):****Assumed asbestos-containing
roofing paper (M)****Photo No./
Material ID:**

CC2FBH - 13

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Former Bunkhouse/
Scattered throughout exterior in
landscaping rock cover***Description (by layer):****1: Cement asbestos board
(CAB) debris (M)**

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Bunkhouse

Project No.
60567920

**Photo No./
Material ID:**

CC2FBH - 14

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former Bunkhouse/
Throughout exterior underneath
wood siding

***Description (by layer):**

**1: Assumed asbestos-
containing vapor barrier paper
(M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Cookhouse

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Former Cookhouse



**Photo No./
Material ID:**

CC2FCH - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former
Cookhouse/
Walls in former kitchen area

***Description (by layer):**

1: Brown residual mastic (M)



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Cookhouse

Project No.
60567920

Photo No./ Material ID: CC2FCH - 02	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Cookhouse/ Exposed ceiling and walls in second floor attic space	
*Description (by layer): 1: Black mastic on paper backing (M) 2: Yellow fiberglass batt insulation (TSI)	



Photo No./ Material ID: CC2FCH - 03	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Cookhouse/ Second floor attic space	
*Description (by layer): 1: Gray grout (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FCH

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
Cookhouse

Project No.
60567920

Photo No./ Material ID: CC2FCH - 04	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Cookhouse/ Flooring throughout main floor	
*Description (by layer): 1: Red square pattern vinyl floor sheeting (M) 2: Brown paper backing with mastic (M)	



Photo No./ Material ID: CC2FCH - 05	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Former Cookhouse/ Walls throughout main floor	
*Description (by layer): 1: 3" tan rubber cove base (M) 2: Brown brittle mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FCH

Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Former Cookhouse	Project No. 60567920
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Photo No./ Material ID:	Date:	
CC2FCH - 06	---	
Structure/Material Location: Not used		
*Description (by layer):		

Photo No./ Material ID:	Date:	
CC2FCH - 07	9/11/2018 to 9/13/2018	
Structure/Material Location:		
Copco No. 2 Former Cookhouse/ Chimney in attic space		
*Description (by layer):		
1: Red chimney brick (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
School

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Former School



**Photo No./
Material ID:**

CC2FS - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Flooring in conference room,
hallway, restrooms, closets, and
kitchen

***Description (by layer):**

- 1: Beige vinyl floor sheeting with
terrazzo pattern (M)
- 2: Gray paper backing with
yellow mastic (M)



Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Former
School**Project No.**
60567920**Photo No./
Material ID:**

CC2FS - 02

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Former School/
Kitchen sink***Description (by layer):****1: Gray sink undercoating (M)****Photo No./
Material ID:**

CC2FS - 03

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Former School/
Walls throughout all rooms***Description (by layer):****1: 4" brown rubber cove base (M)**
2: Off-white mastic (M)

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2FS

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
School

Project No.
60567920

**Photo No./
Material ID:**

CC2FS - 04

Date:

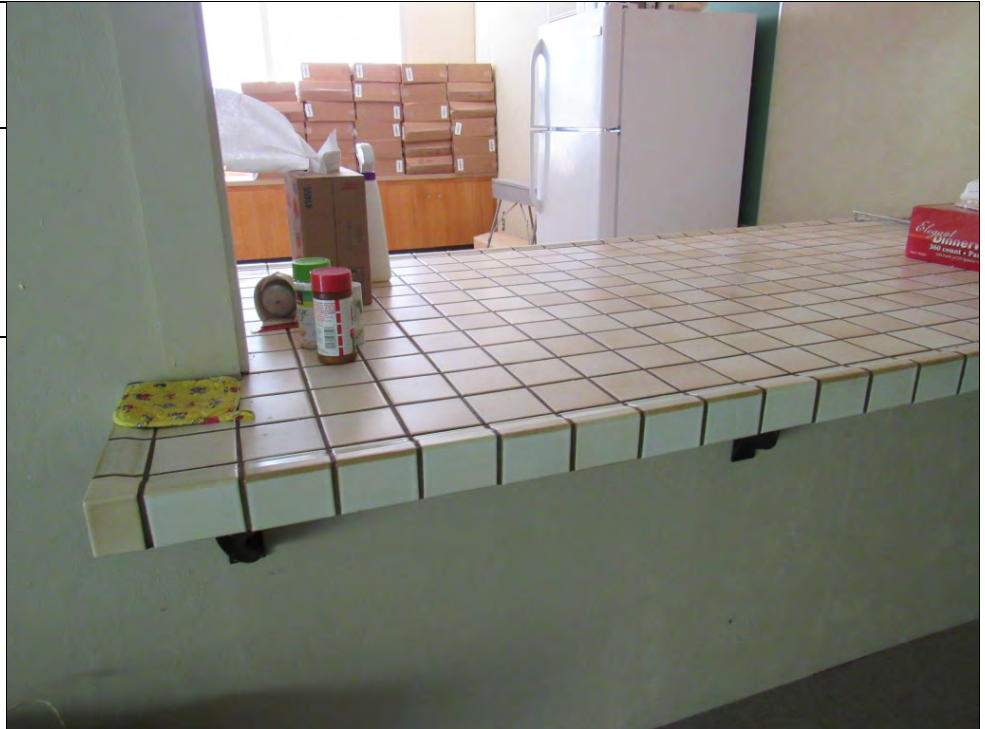
9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Counter between kitchen and
conference room

***Description (by layer):**

**Assumed-asbestos containing
grouts and mastics associated
with 4"x4" white ceramic
counter tile (M)**



**Photo No./
Material ID:**

CC2FS - 05

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Ceiling in hallway, conference
room, and kitchen.

***Description (by layer):**

**1: 12"x12" white tongue and
groove nailed-on ceiling tiles (M)**



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Former School	Project No. 60567920
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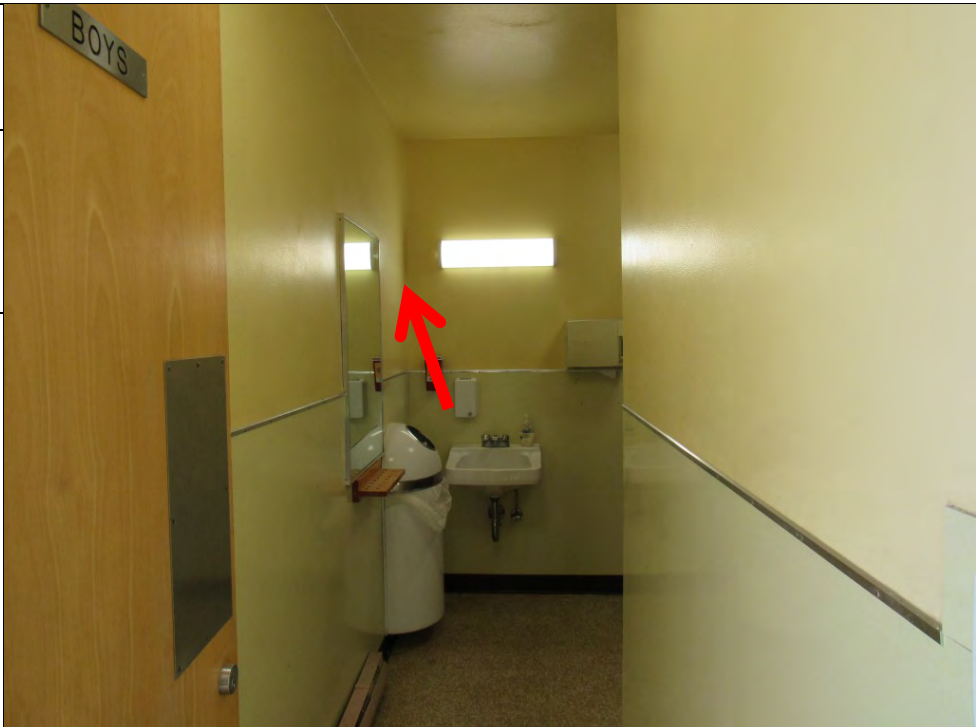

Photo No./ Material ID:	Date:	
CC2FS - 06	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Former School/ Walls throughout all rooms		
*Description (by layer): 1: Off-white joint compound (M) 2: Off-white joint compound (M) 3: Beige gypsum wallboard (M) 4: Off-white joint compound (M)		

Photo No./ Material ID:	Date:	
CC2FS - 07	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Former School/ Chimney in attic space		
*Description (by layer): 1: Fiberglass batt insulation with foil back (TSI)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
School

Project No.
60567920

**Photo No./
Material ID:**

CC2FS - 08

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Incinerator located at corner of
exterior recreational area

***Description (by layer):**

1: Light pink fire brick (M)



**Photo No./
Material ID:**

CC2FS - 09

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Underneath corrugated metal
roof

***Description (by layer):**

**Assumed asbestos-containing
roofing paper (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
School

Project No.
60567920

**Photo No./
Material ID:**

CC2FS - 010

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Throughout exterior, underneath
wood siding

***Description (by layer):**

**Assumed asbestos-containing
vapor barrier paper**



**Photo No./
Material ID:**

CC2FS - 011

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Walls throughout restrooms

***Description (by layer):**

**Assumed asbestos-containing
mastic behind plastic wall
panels (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Former
School

Project No.
60567920

**Photo No./
Material ID:**

CC2FS - 012

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Former School/
Chimney in attic space

***Description (by layer):**

**Assumed asbestos-containing
mirror mastic (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development; Fuel Shed

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Fuel Shed



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development;
Groundwater Well

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/18/2018

Structure:

Copco No. 2 Groundwater Well



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Hazardous Waste Storage	Project No. 60567920
--	--	--------------------------------

Photo No./ Material ID: ---	Date: 9/11/2018 to 9/13/2018	
Structure: Copco No. 2 Hazardous Waste Storage		

Photo No./ Material ID: CC2HWS - 01	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Hazardous Waste Storage/ Throughout roof		
*Description (by layer): 1: Black asphaltic roofing shingles with granules (M) 2: Black asphaltic mastic (M) 3: Black asphaltic roofing shingles with granules (M)		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Maintenance Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Maintenance
Building



**Photo No./
Material ID:**

CC2MB - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Maintenance
Building/
Flooring in office area

***Description (by layer):**

- 1: 12"x12" blue vinyl floor tile
with clear adhesive (M)
- 2: Off-white soft mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2MB

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development,
Maintenance Building**Project No.**
60567920**Photo No./
Material ID:**

CC2MB - 02

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Maintenance
Building/
Walls in office area***Description (by layer):**

- 1: 4" tan rubber cove base (M)
- 2: Gold brittle mastic (M)

**Photo No./
Material ID:**

CC2MB - 03

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Maintenance
Building/
Flooring in bathroom***Description (by layer):**

- 1: Off-white mastic (M)
- 2: Off-white vinyl floor sheeting
with square dot pattern (M)
- 3: Tan paper backing with tan
mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2MB

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development,
Maintenance Building**Project No.**
60567920**Photo No./
Material ID:**

CC2MB - 04

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Maintenance
Building/ Walls in bathroom***Description (by layer):**1: 6" tan cove base with mastic
(M)
2: Off-white mastic (M)**Photo No./
Material ID:**

CC2MB - 05

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Maintenance/ Sink
in breakroom area***Description (by layer):**

1: Gray sink undercoating (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2MB

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Maintenance Building

Project No.
60567920



Photo No./ Material ID: CC2MB - 06	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location:		
*Description (by layer): 1: White sprayed-on wall texture (M) 2: White gypsum wallboard (M) 3: Peach gypsum wallboard with paper (M)		

Photo No./ Material ID: CC2MB - 07	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location:		
*Description (by layer): 1: White joint compound (M) 2: White joint compound with paper (M) 3: Off-white joint compound Peach gypsum wallboard with paper (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2MB Page 4 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Maintenance Storage Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Maintenance
Storage Building



**Photo No./
Material ID:**

CC2MSB - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Maintenance
Storage Building/
Throughout roof

***Description (by layer):**

- 1: Asphaltic roofing shingle with granules (M)
- 2: Black asphaltic mastic (M)
- 3: Asphaltic roofing shingle with granules (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2MSB Page 1 of 2 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development,
Maintenance Storage Building**Project No.**
60567920**Photo No./
Material ID:**

CC2MSB - 02

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Maintenance
Storage Building/
Throughout roof***Description (by layer):****Assumed asbestos-containing
vapor barrier paper behind
wood siding**

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Penstocks

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Penstocks



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Power
Distribution Center Building

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018


Structure:

Copco No. 2 Power Distribution
Center Building



Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Power
Distribution Center Building**Project No.**
60567920

Photo No./ Material ID: CC2MSB - 01	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Power Distribution Center Building/ Throughout roof		
*Description (by layer): Assumed asbestos-containing vapor barrier paper behind wood siding		



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: ---	Date: 9/11/2018 to 9/13/2018
Structure: Copco No. 2 Powerhouse	



Photo No./ Material ID: CC2PH - 01	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Powerhouse/ Flooring in office area	
*Description (by layer): 1: Silver paint (M) 2: Red gasket (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2PH Page 1 of 3 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: CC2PH - 02	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Powerhouse/ Windows throughout main floor	
*Description (by layer): 1: Gray brittle window putty (M)	



Photo No./ Material ID: CC2PH - 03	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Powerhouse/ Windows throughout main floor	
*Description (by layer): 1: Gray brittle window putty (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2PH

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development,
Powerhouse

Project No.
60567920

Photo No./ Material ID: CC2PH - 04	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Powerhouse/ Turbines in Powerhouse	
*Description (by layer): 1: Assumed asbestos- containing wickete gate (M)	



Photo No./ Material ID: CC2PH - 05	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Powerhouse/ Windows throughout main floor	
*Description (by layer): 1: Assumed asbestos- containing metal-clad fire door insulation (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2PH Page 3 of 3 AECOM Project Number: 60567920

Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Residence 1	Project No. 60567920
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Photo No./ Material ID: ---	Date: 9/11/2018 to 9/13/2018	
Structure: Copco No. 2 Residence 1		

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Residence
2**Project No.**
60567920**Photo No./
Material ID:**

Date:9/11/2018 to
9/13/2018**Structure:**

Copco No. 2 Residence 2



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 3



**Photo No./
Material ID:**

CC2R3 - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Flooring in mud room, pantry,
bathroom, and kitchen

***Description (by layer):**

1: Beige patterned vinyl (M)
2: **Off-white fibrous backing
with crumbly yellow mastic
(M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

**Photo No./
Material ID:**

CC2R3 - 02

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Flooring in mud room, pantry,
bathroom, and kitchen

***Description (by layer):**

- 1: Off-white vinyl floor sheeting
with gray 9"x9" gray square
pattern (M)
- 2: **Black paper backing with
mastic (M)**



**Photo No./
Material ID:**

CC2R3 - 03

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Walls in mud room and
bathroom


***Description (by layer):**

- 1: 4" brown rubber cove base
(M)
- 2: Off-white mastic (M)



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Residence 3	Project No. 60567920
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Photo No./ Material ID:	Date:	
CC2R3 - 04	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 3/ Counter between kitchen and conference room		
*Description (by layer): 1: White chalky material with paper (M) 2: Off-white compacted powdery material with paint (M)		

Photo No./ Material ID:	Date:	
CC2R3 - 05	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 3/ Kitchen water heater closet and hallway closet		
*Description (by layer): 1: Off-white joint compound (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

Photo No./ Material ID: CC2R3 - 06	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 3/ Behind wood wall paneling in dining room and living room	
*Description (by layer): 1: Black mastic (M) 2: Brown plywood walls (M)	



Photo No./ Material ID: CC2R3 - 07	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 3/ Coating on chimney, very hard to access (could not reach actual brick and grout)	
*Description (by layer): 1: Troweled-on plaster coat on chimney behind water heater in kitchen (S)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R3 Page 4 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

Photo No./ Material ID: CC2R3 - 08	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 3/ Coating on chimney, very hard to access (could not reach actual brick and grout)	
*Description (by layer): 1: Assumed asbestos-containing gray chimney grout (M)	



Photo No./ Material ID: CC2R3 - 09	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 3/ Throughout roof of main house	
*Description (by layer): 1: Black asphaltic roofing shingles with granules (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R3 Page 5 of 8 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

**Photo No./
Material ID:**

CC2R3 - 10

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Throughout roof of main house

***Description (by layer):**

1: Black asphaltic roofing paper
(M)



**Photo No./
Material ID:**

CC2R3 - 11

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Throughout exterior, underneath
wood siding

***Description (by layer):**

1: Exterior white vapor barrier
paper (M)



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
3

Project No.
60567920

**Photo No./
Material ID:**

CC2R3 - 12

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 3/
Older roofing on shed

***Description (by layer):**

1: Black asphaltic roofing
shingles with granules (M)



**Photo No./
Material ID:**

CC2R3 - 13

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:


Copco No. 2 Residence 3/
Exterior of shed windows

***Description (by layer):**

1: Gray window putty (M)



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Residence 3	Project No. 60567920
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Photo No./ Material ID: CC2R3 - 14	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 3/ Interior of shed		
*Description (by layer): Assumed asbestos-containing electrical panel backing in older electrical panels (M)		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
4

Project No.
60567920

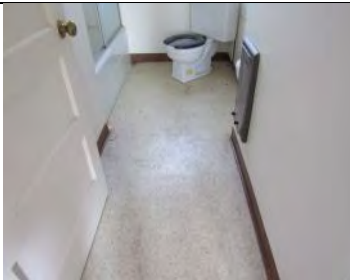
**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 4



**Photo No./
Material ID:**

CC2R4 - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 4/
Flooring in bathroom, kitchen,
and mud room

***Description (by layer):**

- 1: Tan vinyl floor sheeting with
multi-colored mosaic pattern (M)
- 2: Gray paper backing with
mastic (M)



Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Residence 4	Project No. 60567920
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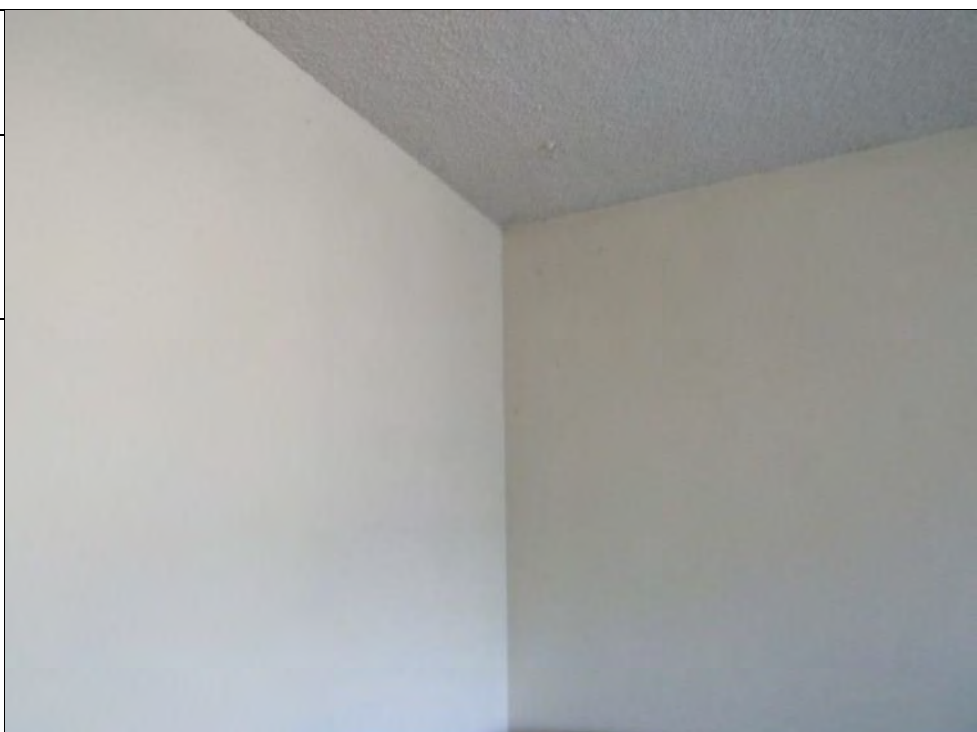
Photo No./ Material ID:	Date:	
CC2R4 - 02	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 4/ Ceiling throughout all rooms		
*Description (by layer): 1: White spray-applied acoustical ceiling texture (S)		

Photo No./ Material ID:	Date:	
CC2R4 - 03	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 4/ Walls throughout all rooms		
*Description (by layer): 1: Off-white joint compound (M) 2: White gypsum wallboard with paper (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name: Klamath River Renewal Corporation	Site Location: Copco No. 2 Development, Residence 4	Project No. 60567920
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Photo No./ Material ID:	Date:	
CC2R4 - 04	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 4/ Walls throughout all rooms		
*Description (by layer): 1: 3" light brown rubber cove base (M) 2: White mastic (M)		

Photo No./ Material ID:	Date:	
CC2R4 - 05	9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 4/ Walls throughout all rooms		
*Description (by layer): 1: Off-white spray-applied wall texture (S)		

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
4

Project No.
60567920

Photo No./ Material ID: CC2R4 - 06	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Living room wall	
*Description (by layer): 1: Off-white grout associated with fireplace bricks on wall (M)	



Photo No./ Material ID: CC2R4 - 07	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Living room floor	
*Description (by layer): 1: Dark gray grout associated with fireplace bricks on floor (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R4

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
4

Project No.
60567920

Photo No./ Material ID: CC2R4 - 08	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Coating on chimney, very hard to access (could not reach actual brick and grout)	
*Description (by layer): 1: Cement asbestos board fireplace panel (M)	



Photo No./ Material ID: CC2R4 - 09	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Behind exterior wood siding	
*Description (by layer): 1: Black asphaltic vapor barrier paper (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
4

Project No.
60567920

Photo No./ Material ID: CC2R4 - 10	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Throughout roof of main house	
*Description (by layer): 1: Cement asbestos board roof shingles (M)	



Photo No./ Material ID: CC2R4 - 11	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 4/ Exterior of house, at base of one roof drain	
*Description (by layer): 1: Dark brown brittle papery roof drain residual insulation (M)	



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 5



**Photo No./
Material ID:**

CC2R5 - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 5/
Roofing throughout house

***Description (by layer):**

**1: Cement asbestos board
roof shingles (M)**



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

Photo No./ Material ID: CC2R5 - 02	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Ceiling throughout all rooms	
*Description (by layer): 1: Black brittle papery roof drain residual insulation (S)	



Photo No./ Material ID: CC2R5 - 03	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Walls throughout all rooms	
*Description (by layer): 1: Black asphaltic vapor barrier paper (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R5 Page 2 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

Photo No./ Material ID: CC2R5 - 04	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Ceiling throughout all rooms	
*Description (by layer): 1: White spray-applied acoustical ceiling texture (S)	



Photo No./ Material ID: CC2R5 - 05	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Walls throughout all rooms	
*Description (by layer): 1: White joint compound with paper (M) 2: White gypsum wallboard with paper (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

Photo No./ Material ID: CC2R5 - 06	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Walls in kitchen, hallway, and mud room	
*Description (by layer): 1: 3" light gray rubber cove base (M) 2: Beige mastic (M)	



Photo No./ Material ID: CC2R5 - 07	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Floors in kitchen, hallway, and mud room	
*Description (by layer): 1: Off-white vinyl floor sheeting with pink and blue diamond pattern (M) 2: Tan paper backing with mastic (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R5 Page 4 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

**Photo No./
Material ID:**

CC2R5 - 08

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 5/

***Description (by layer):**

- 1: Brown vinyl floor sheeting with
mosaic pattern (M)
- 2: Gray paper backing with
mastic (M)



**Photo No./
Material ID:**

CC2R5 - 09

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 5/ Walls
in bathroom

***Description (by layer):**

- 1: 3" brown rubber cove base
(M)
- 2: Beige mastic (M)




Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

Photo No./ Material ID: CC2R5 - 10	Date: 9/11/2018 to 9/13/2018	No photo
Structure/Material Location: Copco No. 2 Residence 5/ On door jamb between living room and hallway		
*Description (by layer): 1: Thick drywall mud (S)		

Photo No./ Material ID: CC2R5 - 11	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 5/ Floor in living room		
*Description (by layer): 1: Gray grout associated with fireplace (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R5 Page 6 of 7 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
5

Project No.
60567920

Photo No./ Material ID: CC2R5 - 12	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Wall in living room	
*Description (by layer): 1: Gray grout associated with fireplace (M)	



Photo No./ Material ID: CC2R5 - 13	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 5/ Walls throughout all rooms	
*Description (by layer): 1: White spray-applied wall texture (S)	



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
6

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 6



**Photo No./
Material ID:**

CC2R6 - 01

Date:

9/11/2018 to
9/13/2018

Structure/Material Location:

Copco No. 2 Residence 6/ Floor
in kitchen and bathroom

***Description (by layer):**

- 1: Off-white vinyl floor sheeting
with pink square pattern (M)
- 2: Tan paper backing with mastic
(M)
- 3: Brown brittle mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R6 Page 1 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation**Site Location:** Copco No. 2 Development, Residence
6**Project No.**
60567920**Photo No./
Material ID:**

CC2R6 - 02

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Residence 6/
Ceiling throughout all rooms***Description (by layer):**

- 1: Off-white vinyl floor sheeting
with multi-colored speckle
pattern (M)
- 2: Brown paper backing with
brown mastic (M)
- 3: Tan wood compressed
material (M)

**Photo No./
Material ID:**

CC2R6 - 03

Date:9/11/2018 to
9/13/2018**Structure/Material Location:**Copco No. 2 Residence 6/
Walls throughout all rooms***Description (by layer):**

- 1: 3" white painted rubber cove
base (M)
- 2: Tan mastic (M)



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing


Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R6

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
6

Project No.
60567920

Photo No./ Material ID: CC2R6 - 04	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 6/ Ceiling throughout all rooms		
*Description (by layer): 1: Off-white joint compound (M) 2: Off-white thin material (M) 3: Off-white gypsum wallboard with paper (M)		

Photo No./ Material ID: CC2R6 - 05	Date: 9/11/2018 to 9/13/2018	
Structure/Material Location: Copco No. 2 Residence 6/ Walls throughout all rooms		
*Description (by layer): 1: White spray-applied wall texture (S) 2: Beige gypsum wallboard (M) 3: White gypsum wallboard with paper (M)		

*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R6 Page 3 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
6

Project No.
60567920

Photo No./ Material ID: CC2R6 - 06	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 6/ Underneath corrugated metal roofing	
*Description (by layer): Assumed asbestos-containing roofing paper (M)	



Photo No./ Material ID: CC2R6 - 07	Date: 9/11/2018 to 9/13/2018
Structure/Material Location: Copco No. 2 Residence 6/ Underneath metal siding	
*Description (by layer): Assumed asbestos-containing vapor barrier paper (M)	



*Layers in bold text are asbestos-containing or are assumed to be asbestos-containing

Categories per AHERA and Cal-OSHA: (S): Surfacing material; (M): Miscellaneous material; (TSI): Thermal System Insulation
Site Photograph Log – CC2R6 Page 4 of 4 AECOM Project Number: 60567920

Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
7

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 7



**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 7



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Residence
8

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Residence 8



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Right
Abutment Retaining Wall

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Right Abutment
Retaining Wall



Client Name:
Klamath River Renewal
Corporation

Site Location: Copco No. 2 Development, Station
Server Power Gang Operating Switch

Project No.
60567920

**Photo No./
Material ID:**

Date:

9/11/2018 to
9/13/2018

Structure:

Copco No. 2 Station Server
Power Gang Operating Switch



APPENDIX C LABORATORY ANALYTICAL RESULTS

December 26, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1825186.00

Client Project: 60537920 Task 2.4
Location: CC2 Control Center Building

Dear Ms. Gladu,

Enclosed please find test results for the 2 sample(s) submitted to our laboratory for analysis on 12/21/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.


For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,


Munaf Khan, Laboratory Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1825186.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 2

Samples Analyzed: 2

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18129779 Client Sample #: CC2CB-4-04

Location: CC2 Control Center Building

Layer 1 of 3 Description: Tan rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 3 Description: White firm mastic with paint

Non-Fibrous Materials:
Mastic/Binder, Fine particles, Paint

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 3 of 3 Description: Yellow brittle mastic

Non-Fibrous Materials:
Mastic/Binder, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18129780 Client Sample #: CC2CB-4-05

Location: CC2 Control Center Building

Layer 1 of 3 Description: Tan rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 3 Description: White firm mastic

Non-Fibrous Materials:
Mastic/Binder, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 3 of 3 Description: Brown brittle mastic with paint

Non-Fibrous Materials:
Mastic/Binder, Paint, Fine particles

Other Fibrous Materials:%
Wollastonite 4%
Cellulose <1%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Tiffany Cummings

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018



Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1825186.00
TAT 1 Day **AH** No
Rush TAT
Due Date 12/26/2018 **Time** 4:55 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Control Center Building

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 2

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18129779	CC2CB-4-04		A
2	18129780	CC2CB-4-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	12/21/18	1655
Analyzed by	Tiffany Cummings		NVL	12/26/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 12/26/2018
 Time: 11:18 AM
 Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

1825186

Turn Around Time

- ☐ 1 Hour ☒ 24 Hours
☐ 2 Hours ☐ 2 Days
☐ 4 Hours ☐ 3 Days

- SM*
☒ 4 Days
☐ 5 Days
☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 Control Center Building</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified)	
<input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116)	
<input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points)	
<input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 2

	Sample ID	Description	A/R
1	CC2CB-4-04		
2	CC2CB-4-05		
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	12/19/18	12:30pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	12/21/18	6:00pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>S. Mitchell</i>	<i>S. Mitchell</i>	NVL	12/21/18	1655
Analyzed by					
Called by					
Faxed/Email by					

October 25, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819278.01

Client Project: 60537920 Task 2.4
Location: CC2 Control Center Building

Dear Ms. Gladu,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18098592 Client Sample #: CC2CCB-1-01**

Layer 1 of 2 Description: Beige vinyl

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder, Miscellaneous particles	None Detected ND	

None Detected ND

Layer 2 of 2 Description: Gray fibrous material with soft yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine particles	Cellulose 68%	
	Glass fibers 5%	
	Synthetic fibers 4%	

None Detected ND**Lab ID: 18098593 Client Sample #: CC2CCB-1-02**

Location: CC2 Control Center Building

Layer 1 of 2 Description: Beige vinyl

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder, Miscellaneous particles	None Detected ND	

None Detected ND

Layer 2 of 2 Description: Gray fibrous material with soft yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Mastic/Binder, Fine particles	Cellulose 65%	
	Glass fibers 5%	
	Synthetic fibers 5%	

None Detected ND**Lab ID: 18098594 Client Sample #: CC2CCB-1-03**

Location: CC2 Control Center Building

Layer 1 of 2 Description: Beige vinyl

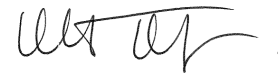
Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder, Miscellaneous particles	None Detected ND	

None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/03/2018



Reviewed by: Matt Macfarlane

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Gray fibrous material with soft yellow mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Fine particles	Cellulose 66%		None Detected ND
		Glass fibers 4%		
		Synthetic fibers 4%		

Lab ID: 18098595 **Client Sample #: CC2CCB-2-01**

Location: CC2 Control Center Building

Layer 1 of 2	Description: Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected ND		None Detected ND

Layer 2 of 2	Description: Yellow soft mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Fine particles, Paint	Cellulose 2%		None Detected ND

Lab ID: 18098596 **Client Sample #: CC2CCB-2-02**

Location: CC2 Control Center Building

Layer 1 of 3	Description: Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected ND		None Detected ND

Layer 2 of 3	Description: Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Fine particles	Cellulose 4%		None Detected ND

Layer 3 of 3	Description: Silver paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Metallic paint, Miscellaneous particles	None Detected ND		None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18098597 Client Sample #: CC2CCB-2-03**

Location: CC2 Control Center Building

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine grainsOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: Yellow soft mastic with paint

Non-Fibrous Materials:
Mastic/Binder, Fine particles, PaintOther Fibrous Materials:%
Cellulose 3%Asbestos Type: %
None Detected ND**Lab ID: 18098598 Client Sample #: CC2CCB-3-01**

Location: CC2 Control Center Building

Layer 1 of 2 Description: Beige sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foamOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: Gray fibrous material with soft yellow mastic

Non-Fibrous Materials:
Mastic/Binder, Fine particlesOther Fibrous Materials:%
Cellulose 69%
Glass fibers 13%Asbestos Type: %
None Detected ND**Lab ID: 18098599 Client Sample #: CC2CCB-3-02**

Location: CC2 Control Center Building

Layer 1 of 2 Description: Beige sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder, Synthetic foamOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: Gray fibrous material with soft yellow mastic

Non-Fibrous Materials:
Mastic/Binder, Fine particles, Insect partsOther Fibrous Materials:%
Cellulose 67%Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/25/2018



 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Glass fibers 14%

Lab ID: 18098600 Client Sample #: CC2CCB-3-03

Location: CC2 Control Center Building

Layer 1 of 2 Description: Beige sheet vinyl

Non-Fibrous Materials:

Vinyl/Binder, Synthetic foam

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Layer 2 of 2 Description: Gray fibrous material with soft yellow mastic

Non-Fibrous Materials:

Mastic/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 68%

Asbestos Type: %

None Detected ND

Glass fibers 10%

Lab ID: 18098601 Client Sample #: CC2CCB-4-01

Location: CC2 Control Center Building

Layer 1 of 1 Description: Tan vinyl with paint

Non-Fibrous Materials:

Vinyl/Binder, Fine grains, Paint

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Lab ID: 18098602 Client Sample #: CC2CCB-4-02

Location: CC2 Control Center Building

Layer 1 of 2 Description: Tan vinyl with paint

Non-Fibrous Materials:

Vinyl/Binder, Fine grains, Paint

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Layer 2 of 2 Description: Off-white soft mastic

Non-Fibrous Materials:

Mastic/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 2%

Asbestos Type: %

None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098603 Client Sample #: CC2CCB-4-03

Location: CC2 Control Center Building

Layer 1 of 1 Description: Tan vinyl with paint

Non-Fibrous Materials:
Vinyl/Binder, Fine grains, Paint

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098604 Client Sample #: CC2CCB-5-01

Location: CC2 Control Center Building

Layer 1 of 2 Description: Black rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine grains

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Yellow soft mastic

Non-Fibrous Materials:
Mastic/Binder, Miscellaneous particles

Other Fibrous Materials:%
Cellulose 1%

Asbestos Type: %
None Detected ND

Lab ID: 18098605 Client Sample #: CC2CCB-5-02

Location: CC2 Control Center Building

Layer 1 of 2 Description: Black rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine grains

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Yellow soft mastic

Non-Fibrous Materials:
Mastic/Binder, Miscellaneous particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Lab ID: 18098606 Client Sample #: CC2CCB-5-03

Location: CC2 Control Center Building

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Control Center Building

Batch #: 1819278.01

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 15

Samples Analyzed: 15

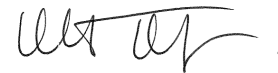
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Black rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Fine grains	None Detected ND		None Detected ND
Layer 2 of 2	Description: Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Miscellaneous particles	Cellulose 1%		None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/03/2018



Reviewed by: Matt Macfarlane

Date: 10/25/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** **1819278.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Control Center Building

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 15

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098592	CC2CCB-1-01		A
2	18098593	CC2CCB-1-02		A
3	18098594	CC2CCB-1-03		A
4	18098595	CC2CCB-2-01		A
5	18098596	CC2CCB-2-02		A
6	18098597	CC2CCB-2-03		A
7	18098598	CC2CCB-3-01		A
8	18098599	CC2CCB-3-02		A
9	18098600	CC2CCB-3-03		A
10	18098601	CC2CCB-4-01		A
11	18098602	CC2CCB-4-02		A
12	18098603	CC2CCB-4-03		A
13	18098604	CC2CCB-5-01		A
14	18098605	CC2CCB-5-02		A
15	18098606	CC2CCB-5-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Daniel		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:51 PM

Entered By: Emily Schubert

1819278



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 CONTROL CENTER BUILDING

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	CC2CCB-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13	" - 5-01		
14	" - 5-02		
15	" - 5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 8, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819504.00

Client Project: 60537920 Task 2.4
Location: CC2 Diversion Dam and Headgate

Dear Ms. Gladu,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 10/2/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Diversion Dam and Headgate

Batch #: 1819504.00

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18099952

Client Sample #: CC2DD-1-01

Layer 1 of 1

Description: Black soft asphaltic material with debris

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Debris, Fine particles

None Detected ND

None Detected ND

Paint

Lab ID: 18099953

Client Sample #: CC2DD-1-02

Location: CC2 Diversion Dam and Headgate

Layer 1 of 1

Description: Black soft asphaltic material with debris

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Debris, Fine particles

None Detected ND

None Detected ND

Paint

Lab ID: 18099954

Client Sample #: CC2DD-1-03

Location: CC2 Diversion Dam and Headgate

Layer 1 of 1

Description: Black soft asphaltic material with debris

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Debris, Fine particles

None Detected ND

None Detected ND

Paint

Sampled by: Client

Analyzed by: Michael Jenkins

Reviewed by: Matt Macfarlane

Date: 10/08/2018

Date: 10/08/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** **1819504.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Diversion Dam and Headgate

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18099952	CC2DD-1-01		A
2	18099953	CC2DD-1-02		A
3	18099954	CC2DD-1-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Michael Jenkins		NVL	10/8/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/3/2018

Time: 12:04 PM

Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

1819504

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 DIVERSION DAM AND HEADGATE</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 3

	Sample ID	Description	A/R
1	CC2DD-1-01		
2	" - 1-02		
3	" - 1-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/10/18-9/11/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	10/2/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>SM</i> S. Mitchell	<i>SM</i>	NVL	10/2/18	1703
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819281.00

Client Project: 60537920 Task 2.4
Location: CC2 Emergency Spill Equipment Shed

Dear Ms. Gladu,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Emergency Spill Equipment Shed

Batch #: 1819281.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098675 Client Sample #: CC2ES-1-01

Location: CC2 Emergency Spill Equipment Shed

Layer 1 of 1 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials:%
Asphalt/Binder, Fine grains, Granules	Glass fibers 17%

Asbestos Type: %

None Detected ND

Lab ID: 18098676 Client Sample #: CC2ES-1-02

Location: CC2 Emergency Spill Equipment Shed

Layer 1 of 1 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials:%
Asphalt/Binder, Fine grains, Granules	Glass fibers 18%

Asbestos Type: %

None Detected ND

Lab ID: 18098677 Client Sample #: CC2ES-1-03

Location: CC2 Emergency Spill Equipment Shed

Layer 1 of 1 Description: Black roofing material with granules

Non-Fibrous Materials:	Other Fibrous Materials:%
Asphalt/Binder, Fine grains, Granules	Glass fibers 15%

Asbestos Type: %

None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819281.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Emergency Spill Equipment Shed

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098675	CC2ES-1-01		A
2	18098676	CC2ES-1-02		A
3	18098677	CC2ES-1-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Daniel		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:56 PM

Entered By: Shaina Mitchell



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hr

☐ 4 H

Please

1819281

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 EMERGENCY SPILL EQUIPMENT SHED

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples

	Sample ID	Description	A/R
1	CC2ES-1-01		
2	11 - 1-02		
3	11 - 1-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18	5pm
				10/01/18	9:15am
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>Emily S</i>	NV	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819249.00

Client Project: 60537920 Task 2.4
Location: CC2 Former Bunkhouse

Dear Ms. Gladu,

Enclosed please find test results for the 33 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Nick Ly".

Nick Ly, Technical Director



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098427 Client Sample #: CC2FBH-1-01

Location: CC2 Former Bunkhouse

Layer 1 of 1 Description: Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Linoleum/Binder, Paint	Cellulose 98%	None Detected ND

Lab ID: 18098428 Client Sample #: CC2FBH-1-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Paint, Fine particles	Cellulose 99%	None Detected ND

Lab ID: 18098429 Client Sample #: CC2FBH-1-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Paint, Fine particles	Cellulose 98%	None Detected ND

Lab ID: 18098430 Client Sample #: CC2FBH-2-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2 Description: White vinyl

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Vinyl/Binder, Calcareous particles	Cellulose 2%	Chrysotile 4%

Layer 2 of 2 Description: Black asphaltic material with wood flakes

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Asphalt/Binder, Wood flakes	Cellulose 7%	Chrysotile 3%

Lab ID: 18098431 Client Sample #: CC2FBH-2-02

Location: CC2 Maintenance Storage Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: White vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Vinyl/Binder, Calcareous particles, Vinyl/Binder		Cellulose 2%	Chrysotile 3%
Layer 2 of 2	Description: Black asphaltic material with wood	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Wood flakes		Cellulose 6%	Chrysotile 4%

Lab ID: 18098432 Client Sample #: CC2FBH-2-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: White vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Vinyl/Binder, Calcareous particles, Vinyl/Binder		Cellulose 2%	Chrysotile 3%
Layer 2 of 2	Description: Black asphaltic material with wood	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Wood flakes, Insect parts		Cellulose 8%	Chrysotile 4%
			Spider silk <1%	

Lab ID: 18098433 Client Sample #: CC2FBH-3-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Beige linoleum	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Linoleum/Binder, Fine particles		Cellulose 18%	None Detected ND
Layer 2 of 2	Description: Tan woven backing with white mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Mastic/Binder, Fine particles		Cellulose 94%	None Detected ND

Lab ID: 18098434 Client Sample #: CC2FBH-3-02

Location: CC2 Maintenance Storage Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Beige linoleum			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Linoleum/Binder, Fine particles	Cellulose 16%		None Detected ND
Layer 2 of 2	Description: Tan woven backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Fine particles	Cellulose 95%		None Detected ND

Lab ID: 18098435 **Client Sample #: CC2FBH-3-03**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Beige linoleum			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Linoleum/Binder, Fine particles	Cellulose 18%		None Detected ND
Layer 2 of 2	Description: Tan woven backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Fine particles	Cellulose 95%		None Detected ND
	Insect parts, Organic debris	Spider silk <1%		
		Synthetic fibers <1%		

Lab ID: 18098436 **Client Sample #: CC2FBH-4-01**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Vinyl/Binder	Cellulose 3%		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098437 Client Sample #: CC2FBH-4-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:
Mastic/Binder, Vinyl/Binder

Other Fibrous Materials:%
Cellulose 2%
Spider silk <1%

Asbestos Type: %
None Detected ND

Lab ID: 18098438 Client Sample #: CC2FBH-4-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:
Mastic/Binder, Vinyl/Binder

Other Fibrous Materials:%
Cellulose 3%
Spider silk <1%

Asbestos Type: %
None Detected ND

Lab ID: 18098439 Client Sample #: CC2FBH-5-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Tan firm mastic with woven fibers and paper

Non-Fibrous Materials:
Mastic/Binder, Fine particles

Other Fibrous Materials:%
Cellulose 23%
Glass fibers 12%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

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Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Synthetic fibers 6%

Lab ID: 18098440 Client Sample #: CC2FBH-5-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Tan firm mastic with woven fibers and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Mastic/Binder, Fine particles, Calcareous particles	Glass fibers 42%	None Detected ND
	Synthetic fibers 9%	
	Cellulose 7%	

Lab ID: 18098441 Client Sample #: CC2FBH-5-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Tan firm mastic with woven fibers and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Mastic/Binder, Fine particles, Calcareous particles	Glass fibers 40%	None Detected ND
	Synthetic fibers 8%	
	Cellulose 7%	

Lab ID: 18098442 Client Sample #: CC2FBH-6-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: White chalky material with paper and paint

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Gypsum/Binder, Paint, Fine particles	Cellulose 23%	None Detected ND

Lab ID: 18098443 Client Sample #: CC2FBH-6-02

Location: CC2 Maintenance Storage Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine particles	Cellulose 21%		None Detected ND

Lab ID: 18098444 Client Sample #: CC2FBH-6-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Fine particles	Cellulose 23%		None Detected ND

Lab ID: 18098445 Client Sample #: CC2FBH-7-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black rubbery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Paint	None Detected ND		None Detected ND

Layer 2 of 2	Description: Brown brittle mastic with paint and paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Paint	Cellulose 13%		None Detected ND

Lab ID: 18098446 Client Sample #: CC2FBH-7-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black rubbery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Paint	None Detected ND		None Detected ND

Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Talc fibers 5%		None Detected ND
		Cellulose 3%		

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098447 Client Sample #: CC2FBH-7-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2 Description: Black rubbery material with paint

Non-Fibrous Materials:

Vinyl/Binder, Paint

Other Fibrous Materials:%

None Detected ND

Asbestos Type: %

None Detected ND

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:

Mastic/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 6%

Wollastonite 4%

Spider silk <1%

Asbestos Type: %

None Detected ND

Lab ID: 18098448 Client Sample #: CC2FBH-8-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Brown brittle mastic on paper

Non-Fibrous Materials:

Mastic/Binder, Calcareous particles, Fine particles

Other Fibrous Materials:%

Cellulose 11%

Asbestos Type: %

None Detected ND

Lab ID: 18098449 Client Sample #: CC2FBH-8-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Brown brittle mastic

Non-Fibrous Materials:

Mastic/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 3%

Asbestos Type: %

None Detected ND

Lab ID: 18098450 Client Sample #: CC2FBH-8-03

Location: CC2 Maintenance Storage Bldg.

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Brown brittle mastic on paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Fine particles, Calcareous particles	Cellulose 13%		None Detected ND

Lab ID: 18098451 **Client Sample #: CC2FBH-9-01**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black asphaltic material on paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 3%		None Detected ND

Layer 2 of 2	Description: Pink fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles	Glass fibers 99%		None Detected ND

Lab ID: 18098452 **Client Sample #: CC2FBH-9-02**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black asphaltic material on paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 4%		None Detected ND

Layer 2 of 2	Description: Pink fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Glass debris, Fine particles	Glass fibers 98%		None Detected ND

Lab ID: 18098453 **Client Sample #: CC2FBH-9-03**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black asphaltic material on paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 3%		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

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Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Pink fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Glass debris, Fine particles, Wood flakes	Glass fibers 96%		None Detected ND
		Cellulose 2%		

Lab ID: 18098454 **Client Sample #: CC2FBH-11-01**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black asphaltic material with multi-colored mineral grains			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Mineral grains, Fine grains	Glass fibers 14%		None Detected ND
	Organic debris, Calcareous particles	Cellulose 3%		

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 3%		None Detected ND

Lab ID: 18098455 **Client Sample #: CC2FBH-11-02**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2	Description: Black asphaltic material with multi-colored mineral grains and paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Mineral grains, Fine grains	Glass fibers 13%		None Detected ND
	Organic debris, Calcareous particles, Paint	Cellulose 2%		
		Spider silk <1%		

Layer 2 of 2	Description: Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 3%		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18098456 Client Sample #: CC2FBH-11-03**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 4 Description: Black asphaltic material with multi-colored mineral grains and paint

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Asphalt/Binder, Mineral grains, Fine grains	Glass fibers 15%	
Organic debris, Calcareous particles, Paint	Cellulose 2%	

Layer 2 of 4 Description: Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 4%	

Layer 3 of 4 Description: Black asphaltic material with gray mineral grains

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Asphalt/Binder, Mineral grains, Fine grains	Glass fibers 12%	
Organic debris, Paint, Calcareous particles	Cellulose 3%	

Layer 4 of 4 Description: Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
Asphalt/Binder, Fine particles, Calcareous particles	Cellulose 3%	

Lab ID: 18098457 Client Sample #: CC2FBH-13-01


Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1 Description: Brown cementitious material

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % Chrysotile 23%
Cement/Binder, Organic debris, Calcareous particles	Cellulose 2%	
Fine grains, Fine particles		

Lab ID: 18098458 Client Sample #: CC2FBH-13-02

Location: CC2 Maintenance Storage Bldg.

Sampled by: Client**Analyzed by:** William Minor**Reviewed by:** Nick Ly**Date:** 10/05/2018**Date:** 10/05/2018

 Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Bunkhouse

Batch #: 1819249.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Gray cementitious material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Cement/Binder, Organic debris, Calcareous particles	Cellulose 2%		Chrysotile 24%
	Fine grains, Fine particles, Mineral grains			

Lab ID: 18098459 **Client Sample #: CC2FBH-13-03**

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 1	Description: Gray cementitious material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Cement/Binder, Organic debris, Calcareous particles	Cellulose 2%		Chrysotile 25%
	Fine grains, Fine particles, Mineral grains			

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819249.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:30 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former Bunkhouse

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 33

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098427	CC2FBH-1-01		A
2	18098428	CC2FBH-1-02		A
3	18098429	CC2FBH-1-03		A
4	18098430	CC2FBH-2-01		A
5	18098431	CC2FBH-2-02		A
6	18098432	CC2FBH-2-03		A
7	18098433	CC2FBH-3-01		A
8	18098434	CC2FBH-3-02		A
9	18098435	CC2FBH-3-03		A
10	18098436	CC2FBH-4-01		A
11	18098437	CC2FBH-4-02		A
12	18098438	CC2FBH-4-03		A
13	18098439	CC2FBH-5-01		A
14	18098440	CC2FBH-5-02		A
15	18098441	CC2FBH-5-03		A
16	18098442	CC2FBH-6-01		A
17	18098443	CC2FBH-6-02		A
18	18098444	CC2FBH-6-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	William Minor		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 1:21 PM

Entered By: Shaista Khan

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819249.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:30 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former Bunkhouse

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 33

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18098445	CC2FBH-7-01		A
20	18098446	CC2FBH-7-02		A
21	18098447	CC2FBH-7-03		A
22	18098448	CC2FBH-8-01		A
23	18098449	CC2FBH-8-02		A
24	18098450	CC2FBH-8-03		A
25	18098451	CC2FBH-9-01		A
26	18098452	CC2FBH-9-02		A
27	18098453	CC2FBH-9-03		A
28	18098454	CC2FBH-11-01		A
29	18098455	CC2FBH-11-02		A
30	18098456	CC2FBH-11-03		A
31	18098457	CC2FBH-13-01		A
32	18098458	CC2FBH-13-02		A
33	18098459	CC2FBH-13-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	William Minor		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 1:21 PM

Entered By: Shaista Khan



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☒ 4 Days

☐ 2 Hr

☐ 4 Hr

Please

1819249

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 FORMER BUNK HOUSE

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email

shannon.mackay@aecom.com

Total Number of Samples 33

	Sample ID	Description	A/R
1	CC2FBH-1-01		
2	" -1-02		
3	" -1-03		
4	" -2-01		
5	" -2-02		
6	" -2-03		
7	" -3-01		
8	" -3-02		
9	" -3-03		
10	" -4-01		
11	" -4-02		
12	" -4-03		
13	" -5-01		
14	" -5-02		
15	" -5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour☐ 24 Hours☐ 4 Days☐ 2 Hours☐ 4 Ho

Please

1819249

Laboratory | Management | Training

Company AECOM CorporationProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240 - 0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206.438.2700Fax (866) 495 - 5288Project Name/Number 60537920 Task 2.4Project Location CC2 FORMER BUNKHOUSE

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu☐ Call ()☐ Fax ()☒ Emailshannon.mackay@aecom.comTotal Number of Samples 33

	Sample ID	Description	A/R
1	CC2FBH-6-01		
2	" - 6-02		
3	" - 6-03		
4	" - 7-01		
5	" - 7-02		
6	" - 7-03		
7	" - 8-01		
8	" - 8-02		
9	" - 8-03		
10	" - 9-01		
11	" - 9-02		
12	" - 9-03		
13	" - 11-01		
14	" - 11-02		
15	" - 11-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>Emily S</i>	NVL	10/11/18	930
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

1819249

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 FORMER BUNKHOUSE</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 33

	Sample ID	Description	A/R
1	CC2FBH-13-01		
2	" - 13-02		
3	" - 13-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:30am
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819279.00

Client Project: 60537920 Task 2.4
Location: CC2 Former Cookhouse

Dear Ms. Gladu,

Enclosed please find test results for the 18 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098607 Client Sample #: CC2FCH-1-01

Location: CC2 Former Cookhouse

Layer 1 of 1 Description: Red flaky material

Non-Fibrous Materials:
Mastic/Binder, Wood flakes, Fine particles

Other Fibrous Materials:%
Cellulose 4%

Asbestos Type: %
None Detected ND

Lab ID: 18098608 Client Sample #: CC2FCH-1-02

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Brown flaky material

Non-Fibrous Materials:
Mastic/Binder, Wood flakes, Fine particles

Other Fibrous Materials:%
Cellulose 3%
Spider silk <1%

Asbestos Type: %
None Detected ND

Lab ID: 18098609 Client Sample #: CC2FCH-1-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Brown flaky material

Non-Fibrous Materials:
Mastic/Binder, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Lab ID: 18098610 Client Sample #: CC2FCH-2-01

Location: CC2 FORMER COOKHOUSE

Layer 1 of 2 Description: Black asphaltic material on paper

Non-Fibrous Materials:
Asphalt/Binder

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: White fibrous material

Non-Fibrous Materials:
Fine particles

Other Fibrous Materials:%
Glass fibers 99%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098611 Client Sample #: CC2FCH-2-02

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Black asphaltic material on paper

Non-Fibrous Materials:	Other Fibrous Materials:%
Adhesive/Binder, Fine particles	Glass fibers 12%
	Cellulose 2%

Asbestos Type: %
None Detected ND

Lab ID: 18098612 Client Sample #: CC2FCH-2-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Black asphaltic material on paper

Non-Fibrous Materials:	Other Fibrous Materials:%
Asphalt/Binder, Fine particles	Cellulose 5%
	Glass fibers 9%

Asbestos Type: %
None Detected ND

Lab ID: 18098613 Client Sample #: CC2FCH-3-01

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:	Other Fibrous Materials:%
Binder/Filler, Mineral grains, Sand	Cellulose <1%
Quartz, Calcareous particles, Mica	

Asbestos Type: %
None Detected ND

Lab ID: 18098614 Client Sample #: CC2FCH-3-02

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:	Other Fibrous Materials:%
Binder/Filler, Mineral grains, Sand	None Detected ND
Quartz, Calcareous particles, Insect parts	

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Mica

Lab ID: 18098615 Client Sample #: CC2FCH-3-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Gray brittle sandy material

Non-Fibrous Materials:

Binder/Filler, Mineral grains, Sand

Quartz, Calcareous particles, Wood flake

Other Fibrous Materials:%

Cellulose <1%

Asbestos Type: %

None Detected ND

Lab ID: 18098616 Client Sample #: CC2FCH-4-01

Location: CC2 FORMER COOKHOUSE

Layer 1 of 2 Description: Red vinyl

Non-Fibrous Materials:

Vinyl/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 14%

Asbestos Type: %

None Detected ND

Layer 2 of 2 Description: Brown fibrous backing with mastic

Non-Fibrous Materials:

Binder/Filler, Fine particles, Mastic/Binder

Calcareous particles

Other Fibrous Materials:%

Cellulose 59%

Synthetic fibers 17%

Asbestos Type: %

None Detected ND

Lab ID: 18098617 Client Sample #: CC2FCH-4-02

Location: CC2 FORMER COOKHOUSE

Layer 1 of 3 Description: Red vinyl

Non-Fibrous Materials:

Vinyl/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 16%

Asbestos Type: %

None Detected ND

Layer 2 of 3 Description: Brown fibrous backing with mastic

Non-Fibrous Materials:

Binder/Filler, Mastic/Binder, Fine particles

Other Fibrous Materials:%

Cellulose 56%

Asbestos Type: %

None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Synthetic fibers 17%

Layer 3 of 3 Description: White compacted powdery material

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Binder/Filler, Fine particles, Calcareous particles

Cellulose 2%

None Detected ND

Lab ID: 18098618 Client Sample #: CC2FCH-4-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 2 Description: Red vinyl

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Vinyl/Binder, Fine particles

Cellulose 12%

None Detected ND

Layer 2 of 2 Description: Brown fibrous backing with mastic

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Binder/Filler, Fine particles, Mastic/Binder

Cellulose 55%

None Detected ND

Synthetic fibers 18%

Lab ID: 18098619 Client Sample #: CC2FCH-5-01

Location: CC2 FORMER COOKHOUSE

Layer 1 of 2 Description: Tan rubbery material with paint

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Vinyl/Binder, Paint

None Detected ND

None Detected ND

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Mastic/Binder, Fine particles

Talc fibers 4%

None Detected ND

Wollastonite 3%

Lab ID: 18098620 Client Sample #: CC2FCH-5-02

Location: CC2 FORMER COOKHOUSE

Sampled by: Client

Analyzed by: William Minor

Date: 10/04/2018

Reviewed by: Matt Macfarlane

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Tan rubbery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Paint	None Detected ND		None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Wollastonite 4%		None Detected ND
		Talc fibers 4%		
		Cellulose 2%		

Lab ID: 18098621 Client Sample #: CC2FCH-5-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 2	Description: Tan rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Vinyl/Binder	Wollastonite 4%		None Detected ND
		Talc fibers 3%		
		Cellulose 2%		

Lab ID: 18098622 Client Sample #: CC2FCH-7-01

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1	Description: Red brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Brick, Mineral grains, Fine grains	None Detected ND		None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former Cookhouse

Batch #: 1819279.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098623 Client Sample #: CC2FCH-7-02

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Red brittle material

Non-Fibrous Materials:
Brick, Mineral grains, Fine grains

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098624 Client Sample #: CC2FCH-7-03

Location: CC2 FORMER COOKHOUSE

Layer 1 of 1 Description: Red brittle material

Non-Fibrous Materials:
Brick, Mineral grains, Fine grains

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819279.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:30 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former Cookhouse

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 18

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098607	CC2FCH-1-01		A
2	18098608	CC2FCH-1-02		A
3	18098609	CC2FCH-1-03		A
4	18098610	CC2FCH-2-01		A
5	18098611	CC2FCH-2-02		A
6	18098612	CC2FCH-2-03		A
7	18098613	CC2FCH-3-01		A
8	18098614	CC2FCH-3-02		A
9	18098615	CC2FCH-3-03		A
10	18098616	CC2FCH-4-01		A
11	18098617	CC2FCH-4-02		A
12	18098618	CC2FCH-4-03		A
13	18098619	CC2FCH-5-01		A
14	18098620	CC2FCH-5-02		A
15	18098621	CC2FCH-5-03		A
16	18098622	CC2FCH-7-01		A
17	18098623	CC2FCH-7-02		A
18	18098624	CC2FCH-7-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	William Minor		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:52 PM

Entered By: Shaina Mitchell



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call for TAT!

1819279

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 FORMER COOKHOUSE

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email

shannon.mackay@aecom.com

Total Number of Samples 18

	Sample ID	Description	A/R
1	CC2FCH-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13	" - 5-01		
14	" - 5-02		
15	" - 5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emilio</i>	<i>Emilio</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call for

1819279

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 FORMER COOKHOUSE</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified)	
<input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000Points (600/R-93-116)	
<input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points)	
<input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email

shannon.mackay@aecom.com

Total Number of Samples 18

	Sample ID	Description	A/R
1	CC2FH-7-01		
2	" - 7-02		
3	" - 7-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Amel S</i>	<i>Amel S</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					

October 26, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



**RE: Bulk Asbestos Fiber Concentration by Point Count
NVL Batch # 1820751**

Client Project: 60537920 Task 2.4
Location: CC2 Former School

Dear Ms. Gladu,

At your request, NVL Laboratories conducted analysis of your sample to determine the asbestos concentration using point count procedures.

The sample was analyzed for the presence of asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with U.S. EPA method 600/R-93/116.

Eight slides of thoroughly homogenized material are prepared for any given sample that requires point counting. In order to be counted as a point, the crosshairs of the microscope must center on either a fiber or a particle. The analyst counts at least 125 points per slide preparation. A minimum of 1000 non-empty points are counted, then the number of counted asbestos fibers are divided by the total number of points counted to arrive at the percentage of asbestos in the sample.

The detection limit for 1000 point counts is 0.1%. We will report <0.1% if asbestos fibers observed but not landed at the cross-hair in the field view. No asbestos fibers observed in the field view will be reported as zero percent.

Please see the conclusion section of the lab reports for point count results.

It has been a pleasure to be of service to you. Please feel free to call if there is anything further we can assist you with.

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code:102063

Enc.: Sample Results

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106200 Client Sample #: CC2FS-6-01 Layer 1**Sample Description:** Analyzed layer: 1 of 4: Off-white compacted powdery material with paint.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 2 % in Layer 1 . Corresponding Lab ID 18098702

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	1	124	125
3	0	125	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	0	125	125
Total	1	999	1000

Conclusion: This Sample Contains 0.1 % ASBESTOS**Comments:** Chrysotile asbestos fibers observed in field of view**Sampled by:** Client**Analyzed by:** Alla Prysyzhnyuk**Reviewed by:** Matt Macfarlane**Date:** 10/26/2018**Date:** 10/26/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106201 Client Sample #: CC2FS-6-01 Layer 2

Sample Description: Analyzed layer: 2 of 4: Off-white compacted powdery material with paper.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 2 % in Layer 2. Corresponding Lab ID 18098702

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	0	125	125
3	0	125	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	0	125	125
Total	0	1000	1000

Conclusion: This Sample Contains < 0.1 % ASBESTOS

Comments: Chrysotile asbestos fibers observed in the field of view but not counted as points

Sampled by: Client

Analyzed by: Alla Prysyzhnyuk

Reviewed by: Matt Macfarlane

Date: 10/26/2018

Date: 10/26/2018



 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106202 Client Sample #: CC2FS-6-02 Layer 1

Sample Description: Analyzed layer 1 of 4: Off-white compacted powdery material with paint.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 2 % in Layer 1. Corresponding Lab ID 18098703

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	0	125	125
3	1	124	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	0	125	125
Total	1	999	1000

Conclusion: This Sample Contains 0.1 % ASBESTOS

Comments: Chrysotile asbestos fibers observed in field of view

Sampled by: Client

Analyzed by: Alla Prysyzhnyuk

Reviewed by: Matt Macfarlane

Date: 10/26/2018

Date: 10/26/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106203 Client Sample #: CC2FS-6-02 Layer 2**Sample Description:** Analyzed layer 2 of 4: Off-white compacted powdery material with white paper.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 2 % in Layer 2. Corresponding Lab ID 18098703

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	0	125	125
3	0	125	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	0	125	125
Total	0	1000	1000

Conclusion: This Sample Contains < 0.1 % ASBESTOS**Comments:** Asbestos fibers observed in the field of view but not counted as points**Sampled by:** Client**Analyzed by:** Alla Prysyzhnyuk**Reviewed by:** Matt Macfarlane**Date:** 10/26/2018**Date:** 10/26/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count

Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106204 Client Sample #: CC2FS-6-03 Layer 1**Sample Description:** Analyzed layer 1 of 4: Off-white compacted powdery material with paint.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation. Asbestos content was originally found to be 3 % in Layer 1 . Corresponding Lab ID 18098704

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	0	125	125
3	0	125	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	0	125	125
Total	0	1000	1000

Conclusion: This Sample Contains < 0.1 % ASBESTOS**Comments:** Chrysotile asbestos fibers observed in the field of view but not counted as points**Sampled by:** Client**Analyzed by:** Alla Prysyzhnyuk**Reviewed by:** Matt Macfarlane**Date:** 10/26/2018**Date:** 10/26/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

PLM Point Count Bulk Asbestos Fibers Analysis

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1820751.00

Client Project #: 60537920 Task 2.4

Date Received: 10/19/2018

Samples Received: 6

Samples Analyzed: 6

Method: EPA/600R-93/116

Lab ID : 18106205 Client Sample #: CC2FS-6-03 Layer 2

Sample Description: Analyzed layer 2 of 4: Off-white compacted powdery material with white paper.

This sample was initially analyzed for Asbestos content using Polarized Light Microscopy (PLM).

Introduction: Asbestos fibers were observed and quantity was determined using calibrated visual area estimation.

Asbestos content was originally found to be 2 % in Layer 2. Corresponding Lab ID 18098704

Prep Slide #	Asbestos Point	Non Asbestos Point	Total Points Counted
1	0	125	125
2	0	125	125
3	1	124	125
4	0	125	125
5	0	125	125
6	0	125	125
7	0	125	125
8	1	124	125
Total	2	998	1000

Conclusion: This Sample Contains 0.2 % ASBESTOS

Comments: Chrysotile asbestos fibers observed in field of view

Sampled by: Client

Analyzed by: Alla Prysyzhnyuk

Reviewed by: Matt Macfarlane

Date: 10/26/2018

Date: 10/26/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using EPA 600/R-93/116 Method with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government.

Company AECOM-Seattle **NVL Batch Number** 1820751.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 5 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/26/2018 **Time** 10:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former School

Subcategory PLM Bulk

Item Code ASB-04 **EPA 600/R-93-116 Asbestos by PLM (1000 points) <bulk>**

Total Number of Samples 6

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18106200	CC2FS-6-01 Layer 1		A
2	18106201	CC2FS-6-01 Layer 2		A
3	18106202	CC2FS-6-02 Layer 1		A
4	18106203	CC2FS-6-02 Layer 2		A
5	18106204	CC2FS-6-03 Layer 1		A
6	18106205	CC2FS-6-03 Layer 2		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Emailed by Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/19/18	1015
Analyzed by	Alla Prysazhnyuk		NVL	10/26/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Sample Originally from Batch 1819869

Instructions:

Date: 10/19/2018

Time: 10:24 AM

Entered By: Emily Schubert

Emily Schubert

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Friday, October 19, 2018 10:14 AM
To: Client Services
Subject: 60537920 1000 Point Count (more coming)

Please PLM point count, 1000 pts, 5 day TAT, the following samples and layers. Please analyze layers separately:

Batch
1819491
Sample #s
CC1PH-4-01 Layer 1
CC1PH-4-02 Layer 1
CC1PH-4-03 Layer 1

I submitted this as a 400 count, but I need it to be 1000 point counted.

Batch
1819283
Sample #
CC1R2-1-01 Layer 1

I submitted these as a 400 count, but I need them to be 1000 point counted.

Batch
1819284
Sample #s
CC2FS-6-01 Layer 1
CC2FS-6-01 Layer 2
CC2FS-6-02 Layer 1
CC2FS-6-02 Layer 2
CC2FS-6-03 Layer 1
CC2FS-6-03 Layer 2

Thanks,

Shannon MacKay
Sr. Environmental Scientist, Environmental Compliance
D 206-438-2232 C 206-999-2112
shannon.mackay@aecom.com

AECOM
1111 3rd Avenue, Suite 1600 Seattle, WA 98101
206-438-2700 Fax 866-438-2166
www.aecom.com

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819284.00

Client Project: 60537920 Task 2.4
Location: CC2 Former School

Dear Ms. Gladu,

Enclosed please find test results for the 18 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098690 Client Sample #: CC2FS-1-01

Location: CC2 Former School

Layer 1 of 2 Description: Tan sheet vinyl with trace thin clear adhesive surface

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Adhesive/Binder, Calcareous particles, Vinyl/Binder	None Detected ND	None Detected ND

Layer 2 of 2 Description: Light gray fibrous backing with gold mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine particles, Mastic/Binder	Cellulose 37%	None Detected ND
	Glass fibers 5%	
	Synthetic fibers 10%	
	Wollastonite 2%	

Lab ID: 18098691 Client Sample #: CC2FS-1-02

Location: CC2 Former School

Layer 1 of 2 Description: Tan sheet vinyl with trace thin clear adhesive surface

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Adhesive/Binder, Calcareous particles, Vinyl/Binder	None Detected ND	None Detected ND

Layer 2 of 2 Description: Light gray fibrous backing with yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Fine particles, Insect parts	Cellulose 39%	None Detected ND
Mastic/Binder	Glass fibers 5%	
	Synthetic fibers 10%	

Lab ID: 18098692 Client Sample #: CC2FS-1-03

Location: CC2 Former School

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Tan sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous particles, Vinyl/Binder, Debris	None Detected ND		None Detected ND
Layer 2 of 2	Description: Light gray fibrous backing with yellow mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Insect parts	Cellulose 36%		None Detected ND
	Mastic/Binder	Glass fibers 4%		
		Synthetic fibers 12%		

Lab ID: 18098693 **Client Sample #: CC2FS-2-01**

Location: CC2 Former School

Layer 1 of 1	Description: Gray flaky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous particles	None Detected ND		Chrysotile 10%

Lab ID: 18098694 **Client Sample #: CC2FS-2-02**

Location: CC2 Former School

Layer 1 of 1	Description: Gray flaky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous particles	None Detected ND		Chrysotile 12%

Lab ID: 18098695 **Client Sample #: CC2FS-2-03**

Location: CC2 Former School

Layer 1 of 1	Description: Gray flaky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous particles	None Detected ND		Chrysotile 10%

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098696 Client Sample #: CC2FS-3-01

Location: CC2 Former School

Layer 1 of 2 Description: Brown rubbery material with trace white paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Calcareous particles, Debris, Insect parts	Spider silk <1%	
Rubber/Binder, Paint		

Layer 2 of 2 Description: Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Calcareous particles, Mastic/Binder	None Detected ND	

Lab ID: 18098697 Client Sample #: CC2FS-3-02

Location: CC2 Former School

Layer 1 of 1 Description: Brown rubbery material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Calcareous particles, Debris, Insect parts	Spider silk <1%	
Rubber/Binder		

Lab ID: 18098698 Client Sample #: CC2FS-3-03

Location: CC2 Former School

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Calcareous particles, Debris, Insect parts	Spider silk <1%	
Rubber/Binder		

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Mastic/Binder	None Detected ND	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098699 Client Sample #: CC2FS-5-01

Location: CC2 Former School

Layer 1 of 1 Description: Tan compressed fibrous material with off-white paint

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Paint	Cellulose 89%

Asbestos Type: %
None Detected ND

Lab ID: 18098700 Client Sample #: CC2FS-5-02

Location: CC2 Former School

Layer 1 of 1 Description: Tan compressed fibrous material with off-white paint

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Paint	Cellulose 90%

Asbestos Type: %
None Detected ND

Lab ID: 18098701 Client Sample #: CC2FS-5-03

Location: CC2 Former School

Layer 1 of 1 Description: Tan compressed fibrous material with off-white paint

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Paint	Cellulose 90%

Asbestos Type: %
None Detected ND

Lab ID: 18098702 Client Sample #: CC2FS-6-01

Location: CC2 Former School

Layer 1 of 4 Description: Off-white compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Calcareous particles, Paint	None Detected ND

Asbestos Type: %
Chrysotile 2%

Layer 2 of 4 Description: Off-white compacted powdery material with white paper

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler	Cellulose 25%

Asbestos Type: %
Chrysotile 2%

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 4	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 27%	None Detected ND
Layer 4 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 21%	None Detected ND
			Glass fibers 2%	

Lab ID: 18098703 **Client Sample #: CC2FS-6-02**

Location: CC2 Former School

Layer 1 of 4	Description: Off-white compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	Chrysotile 2%
Layer 2 of 4	Description: Off-white compacted powdery material with white paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 25%	Chrysotile 2%
Layer 3 of 4	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 25%	None Detected ND
Layer 4 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 19%	None Detected ND
			Glass fibers 2%	

Lab ID: 18098704 **Client Sample #: CC2FS-6-03**

Location: CC2 Former School

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 4	Description: Off-white compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	Chrysotile 3%
Layer 2 of 4	Description: Off-white compacted powdery material with white paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 25%	Chrysotile 2%
Layer 3 of 4	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 24%	None Detected ND
Layer 4 of 4	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 22%	None Detected ND
			Glass fibers 2%	

Lab ID: 18098705 **Client Sample #: CC2FS-8-01**

Location: CC2 Former School

Layer 1 of 1	Description: Peach textured brittle material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Granules, Fine particles	None Detected ND	None Detected ND
		Insect parts		

Lab ID: 18098706 **Client Sample #: CC2FS-8-02**

Location: CC2 Former School

Layer 1 of 1	Description: Peach textured brittle material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Granules, Fine particles	Spider silk <1%	None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Former School

Batch #: 1819284.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 18

Samples Analyzed: 18

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Insect parts

Lab ID: 18098707 **Client Sample #: CC2FS-8-03**

Location: CC2 Former School

Layer 1 of 1 **Description:** Peach textured brittle material

Non-Fibrous Materials:

Binder/Filler, Granules, Fine particles

Other Fibrous Materials: %

None Detected ND

Asbestos Type: %**None Detected ND****Sampled by:** Client**Analyzed by:** Alla Prysyazhnyuk**Reviewed by:** Matt Macfarlane**Date:** 10/04/2018**Date:** 10/05/2018
Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819284.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:30 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former School

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 18

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098690	CC2FS-1-01		A
2	18098691	CC2FS-1-02		A
3	18098692	CC2FS-1-03		A
4	18098693	CC2FS-2-01		A
5	18098694	CC2FS-2-02		A
6	18098695	CC2FS-2-03		A
7	18098696	CC2FS-3-01		A
8	18098697	CC2FS-3-02		A
9	18098698	CC2FS-3-03		A
10	18098699	CC2FS-5-01		A
11	18098700	CC2FS-5-02		A
12	18098701	CC2FS-5-03		A
13	18098702	CC2FS-6-01		A
14	18098703	CC2FS-6-02		A
15	18098704	CC2FS-6-03		A
16	18098705	CC2FS-8-01		A
17	18098706	CC2FS-8-02		A
18	18098707	CC2FS-8-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	Alla Prysazhnyuk		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 3:01 PM

Entered By: Emily Schubert

1819284



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 FORMER SCHOOL

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 18

	Sample ID	Description	A/R
1	CC2FS-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 5-01		
11	" - 5-02		
12	" - 5-03		
13	" - 6-01		
14	" - 6-02		
15	" - 6-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30 am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emilee S</i>	<i>[Signature]</i>	NVL	10/11/18	9:30
Analyzed by					
Called by					
Faxed/Email by					

1819284



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM CorporationProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240 - 0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206.438.2700Fax (866) 495 - 5288Project Name/Number 60537920 Task 2.4

Project Location

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com
Total Number of Samples 18

	Sample ID	Description	A/R
1	CC2FS-8-01		
2	" -8-02		
3	" -8-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/8-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18 10/01/18	5pm 9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>[Signature]</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819277.00

Client Project: 60537920 Task 2.4
Location: CC2 Hazardous Waste Storage

Dear Ms. Gladu,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Hazardous Waste Storage

Batch #: 1819277.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098589 Client Sample #: CC2HWS-1-01

Layer 1 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Fine grains, Granules	Glass fibers 17%	
Layer 2 of 3	Description: Black asphaltic mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Miscellaneous particles	Cellulose 1%	
Layer 3 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Fine grains, Granules	Glass fibers 15%	

None Detected ND

None Detected ND

None Detected ND

Lab ID: 18098590 Client Sample #: CC2HWS-1-02

Location: CC2 Hazardous Waste Storage

Layer 1 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Fine grains, Granules	Glass fibers 18%	
Layer 2 of 3	Description: Black asphaltic mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Miscellaneous particles	Cellulose 2%	
Layer 3 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Asphalt/Binder, Fine grains, Granules	Glass fibers 16%	

None Detected ND

None Detected ND

None Detected ND

Lab ID: 18098591 Client Sample #: CC2HWS-1-03

Location: CC2 Hazardous Waste Storage

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Hazardous Waste Storage

Batch #: 1819277.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

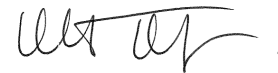
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Fine grains, Granules		Glass fibers 16%	None Detected ND
Layer 2 of 3	Description: Black asphaltic mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Miscellaneous particles		Cellulose 1%	None Detected ND
Layer 3 of 3	Description: Black roofing material with granules	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Fine grains, Granules		Glass fibers 17%	None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/03/2018



Reviewed by: Matt Macfarlane

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** **1819277.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Hazardous Waste Storage

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098589	CC2HWS-1-01		A
2	18098590	CC2HWS-1-02		A
3	18098591	CC2HWS-1-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Daniel		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:49 PM

Entered By: Emily Schubert



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call

1819277

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 Hazardous Waste Storage</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified)	
<input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000Points (600/R-93-116)	
<input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points)	
<input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 3

	Sample ID	Description	A/R
1	CC2HWS-1-01		
2	" -1-02		
3	" -1-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:15 am
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	<i>Emilie S</i>	<i>Emilie S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

December 26, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1825185.00

Client Project: 60537920 Task 2.4
Location: CC2 Maintenance Building

Dear Ms. Gladu,

Enclosed please find test results for the 1 sample(s) submitted to our laboratory for analysis on 12/21/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Munaf Khan, Laboratory Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Maintenance Building

Batch #: 1825185.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 1

Samples Analyzed: 1

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18129782 Client Sample #: CC2MB-2-04**

Location: CC2 Maintenance Building

Layer 1 of 2 Description: Beige soft material

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Binder/Filler, Fine grains, Fine particles

None Detected ND

None Detected ND**Layer 2 of 2 Description:** White soft mastic with paint and trace of tan fibrous material

Non-Fibrous Materials:

Other Fibrous Materials:%

Asbestos Type: %

Binder/Filler, Fine grains, Fine particles

Cellulose 8%

None Detected ND

Mastic/Binder, Paint

Sampled by: Client**Analyzed by:** Akane Yoshikawa**Date:** 12/26/2018**Reviewed by:** Munaf Khan**Date:** 12/26/2018

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1825185.00
TAT 1 Day **AH** No
Rush TAT
Due Date 12/26/2018 **Time** 4:55 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Maintenance Building

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18129782	CC2MB-2-04		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	12/21/18	1655
Analyzed by	Akane Yoshikawa		NVL	12/26/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 12/26/2018
 Time: 11:17 AM
 Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

1825185

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 Maintenance Building</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1 <u>CC2MB-2-04</u>		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>David Simon, CAC</u>	<u>David Simon</u>	<u>AECOM</u>	<u>12/19/18</u>	<u>2:00pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>Shannon MacKay</u>	<u>AECOM</u>	<u>12/21/18</u>	<u>6:00pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S. Mitchell</u>	<u>S. Mitchell</u>	<u>NVL</u>	<u>12/21/18</u>	<u>1655</u>
Analyzed by					
Called by					
Faxed/Email by					

Emily Schubert

1825185

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Wednesday, December 26, 2018 11:31 AM
To: Client Services
Subject: RE: CC2 Maintenance Bldg

Thank you yes, go ahead and change to 24 hours.

Shannon MacKay
Sr. Environmental Scientist, Environmental Compliance
D 206-438-2232 C 206-999-2112
shannon.mackay@aecom.com

AECOM
1111 3rd Avenue, Suite 1600 Seattle, WA 98101
206-438-2700 Fax 866-438-2166
www.aecom.com

From: Client Services [<mailto:ClientServices@nvlabs.com>]
Sent: Wednesday, December 26, 2018 11:28 AM
To: MacKay, Shannon
Subject: CC2 Maintenance Bldg

Hello,

In regards to the samples dropped off on Friday, the batch listed above has a TAT of 4 days. Were you wanting to keep that as 4 days, making the results due 1/2/2019, or were you wanting the TAT to be 24hrs like the rest of the samples turned in on Friday? Please confirm

Thanks & Regards,

Client Services



www.nvlabs.com

Your feedback is very important to us!

ph: 206.547.0100 | fax: 206.634.1936
toll free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North, Seattle, WA 98103

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October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819222.00

Client Project: 60537920 Task 2.4
Location: CC2 MAINTENANCE BLDG.

Dear Ms. Gladu,

Enclosed please find test results for the 21 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098261 Client Sample #: CC2MB-1-01

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this sample.

Layer 1 of 1 Description: Blue tile with thin clear adhesive and debris

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Adhesive/Binder, Binder/Filler, Calcareous particles	Cellulose	None Detected ND
Mineral grains, Insect parts, Fine particles	Synthetic fibers	
	Spider silk	

Lab ID: 18098262 Client Sample #: CC2MB-1-02

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this sample.

Layer 1 of 1 Description: Blue tile with thin clear adhesive and debris

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Adhesive/Binder, Binder/Filler, Calcareous particles	Cellulose	None Detected ND
Mineral grains, Sand	Synthetic fibers	

Lab ID: 18098263 Client Sample #: CC2MB-1-03

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 3 Description: Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Calcareous particles, Mastic/Binder	None Detected ND	None Detected ND

Layer 2 of 3 Description: Blue tile

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Binder/Filler, Calcareous particles, Mineral grains	None Detected ND	None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: Tan soft mastic with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous particles, Insect parts, Mastic/Binder	Cellulose 2%		None Detected ND
	Wood flakes			

Lab ID: 18098264 Client Sample #: CC2MB-2-01

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this sample.

Layer 1 of 1	Description: Tan rubbery material with trace tan soft mastic and debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles, Insect parts, Mastic/Binder	Cellulose		None Detected ND
	Rubber/Binder	Synthetic fibers		
		Glass fibers		
		Spider silk		
		Hair		

Lab ID: 18098265 Client Sample #: CC2MB-2-02

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this sample.

Layer 1 of 1	Description: Tan rubbery material with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous particles, Insect parts, Fine particles	Cellulose		None Detected ND
	Mastic/Binder, Rubber/Binder, Wood flakes	Synthetic fibers		

Lab ID: 18098266 Client Sample #: CC2MB-2-03

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this layer 1.

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Tan rubbery material with adhesive and debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Adhesive/Binder, Calcareous particles, Insect parts	Cellulose		None Detected ND
	Fine particles, Rubber/Binder	Synthetic fibers		
		Spider silk		

Layer 2 of 2	Description: Gold brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	None Detected ND		None Detected ND

Lab ID: 18098267 **Client Sample #: CC2MB-3-01**

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this layer 1.

Layer 1 of 3	Description: Trace off-white soft mastic with debris			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles, Mastic/Binder, Insect parts	Cellulose		None Detected ND
	Paint	Synthetic fibers		
		Spider silk		

Layer 2 of 3	Description: Tan sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Synthetic foam, Vinyl/Binder	None Detected ND		None Detected ND

Layer 3 of 3	Description: Tan fibrous backing with tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous particles, Mastic/Binder	Cellulose 40%		None Detected ND
		Glass fibers 5%		

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098268 Client Sample #: CC2MB-3-02

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this layer 1.

Layer 1 of 3 Description: Off-white soft material with debris

Non-Fibrous Materials:
Binder/Filler, Calcareous particles, Fine particles
Insect parts

Other Fibrous Materials:%
Cellulose
Synthetic fibers

Asbestos Type: %
None Detected ND

Layer 2 of 3 Description: Layered off-white sheet vinyl

Non-Fibrous Materials:
Synthetic foam, Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 3 of 3 Description: Layered tan fibrous backing with mastic

Non-Fibrous Materials:
Binder/Filler, Calcareous particles, Mastic/Binder

Other Fibrous Materials:%
Cellulose 38%
Glass fibers 5%

Asbestos Type: %
None Detected ND

Lab ID: 18098269 Client Sample #: CC2MB-3-03

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 2 Description: Off-white sheet vinyl with adhesive

Non-Fibrous Materials:
Adhesive/Binder, Fine particles, Synthetic foam
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Tan fibrous backing with tan soft mastic

Non-Fibrous Materials:
Binder/Filler, Calcareous particles, Mastic/Binder

Other Fibrous Materials:%
Cellulose 32%
Glass fibers 4%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020**Lab ID: 18098270 Client Sample #: CC2MB-4-01**

Location: CC2 MAINTENANCE BLDG.

Comments: Unable to separate mastics for analysis in later 1.

Layer 1 of 3 Description: Light gray rubbery material with trace thin soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%
Calcareous particles, Mastic/Binder, Rubber/Binder	Cellulose 2%
	Synthetic fibers <1%

Asbestos Type: %
None Detected ND**Layer 2 of 3 Description:** Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%
Calcareous particles, Mastic/Binder	None Detected ND

Asbestos Type: %
None Detected ND**Layer 3 of 3 Description:** Trace brown hard compressed fibrous material with white paint

Non-Fibrous Materials:	Other Fibrous Materials:%
Binder/Filler, Paint	Cellulose 12%

Asbestos Type: %
None Detected ND**Lab ID: 18098271 Client Sample #: CC2MB-4-02**

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 2 Description: Light gray rubbery material with trace thin tan soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%
Calcareous particles, Mastic/Binder, Rubber/Binder	Cellulose 2%
	Synthetic fibers <1%

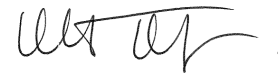
Asbestos Type: %
None Detected ND**Layer 2 of 2 Description:** Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%
Calcareous particles, Mastic/Binder	None Detected ND

Asbestos Type: %
None Detected ND**Lab ID: 18098272 Client Sample #: CC2MB-4-03**

Location: CC2 MAINTENANCE BLDG.

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this layer 2.

Sampled by: Client**Analyzed by:** Alla Prysyazhnyuk**Date:** 10/04/2018

Reviewed by: Matt Macfarlane**Date:** 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Light gray rubbery material with trace thin tan soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Calcareous particles, Mastic/Binder, Rubber/Binder	Cellulose <1%	None Detected ND
		Synthetic fibers <1%	

Layer 2 of 2	Description: Off-white soft mastic with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Calcareous particles, Mastic/Binder, Insect parts	Cellulose	None Detected ND
		Glass fibers	
		Spider silk	

Lab ID: 18098273 **Client Sample #: CC2MB-5-01**

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 1	Description: Gray flaky material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Calcareous particles	Cellulose 8%	None Detected ND

Lab ID: 18098274 **Client Sample #: CC2MB-5-02**

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 1	Description: Gray flaky material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Calcareous particles	Cellulose 5%	None Detected ND

Lab ID: 18098275 **Client Sample #: CC2MB-5-03**

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 1	Description: Gray flaky material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Calcareous particles	Cellulose 6%	None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098276 Client Sample #: CC2MB-6-01

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 3	Description: White bumpy compacted powdery material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Binder/Filler, Calcareous particles, Paint	None Detected ND	None Detected ND	
Layer 2 of 3	Description: White fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Binder/Filler	Cellulose 27%	None Detected ND	
Layer 3 of 3	Description: Peach chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Binder/Filler, Gypsum/Binder	Cellulose 20%	None Detected ND	

Lab ID: 18098277 Client Sample #: CC2MB-6-02

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 1	Description: White bumpy compacted powdery material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Binder/Filler, Calcareous particles, Paint	None Detected ND	None Detected ND	

Lab ID: 18098278 Client Sample #: CC2MB-6-03

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 1	Description: White bumpy compacted powdery material with white paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Binder/Filler, Calcareous particles, Paint	None Detected ND	None Detected ND	

Lab ID: 18098279 Client Sample #: CC2MB-7-01

Location: CC2 MAINTENANCE BLDG.

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 4	Description: White compacted powdery material with off-white paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	None Detected ND
Layer 2 of 4	Description: White compacted powdery material with white paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles	Cellulose 25%	None Detected ND
Layer 3 of 4	Description: Off-white thin fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 18%	None Detected ND
Layer 4 of 4	Description: Peach chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 22%	None Detected ND
			Glass fibers 2%	

Lab ID: 18098280 **Client Sample #: CC2MB-7-02**

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 3	Description: White compacted powdery material with off-white paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	None Detected ND
Layer 2 of 3	Description: Green thin fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 23%	None Detected ND
Layer 3 of 3	Description: Peach chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder, Fine particles	Cellulose 19%	None Detected ND
			Glass fibers 2%	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 MAINTENANCE BLDG.

Batch #: 1819222.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 21

Samples Analyzed: 21

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098281 Client Sample #: CC2MB-7-03

Location: CC2 MAINTENANCE BLDG.

Layer 1 of 4	Description: Off-white compacted powdery material with white paint	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	
Layer 2 of 4	Description: Off-white compacted powdery material with white paper	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Calcareous particles	Cellulose 30%	
Layer 3 of 4	Description: Off-white fibrous material	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler	Cellulose 24%	
Layer 4 of 4	Description: Peach chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Gypsum/Binder, Fine particles	Cellulose 19%	
			Glass fibers 2%	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** 1819222.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:20 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 MAINTENANCE BLDG.

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 21

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098261	CC2MB-1-01		A
2	18098262	CC2MB-1-02		A
3	18098263	CC2MB-1-03		A
4	18098264	CC2MB-2-01		A
5	18098265	CC2MB-2-02		A
6	18098266	CC2MB-2-03		A
7	18098267	CC2MB-3-01		A
8	18098268	CC2MB-3-02		A
9	18098269	CC2MB-3-03		A
10	18098270	CC2MB-4-01		A
11	18098271	CC2MB-4-02		A
12	18098272	CC2MB-4-03		A
13	18098273	CC2MB-5-01		A
14	18098274	CC2MB-5-02		A
15	18098275	CC2MB-5-03		A
16	18098276	CC2MB-6-01		A
17	18098277	CC2MB-6-02		A
18	18098278	CC2MB-6-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	920
Analyzed by	Alla Prysazhnyuk		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:14 PM

Entered By: Shaina Mitchell

Company AECOM-Seattle **NVL Batch Number** 1819222.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:20 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 MAINTENANCE BLDG.

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 21

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18098279	CC2MB-7-01		A
20	18098280	CC2MB-7-02		A
21	18098281	CC2MB-7-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	920
Analyzed by	Alla Prysyzhnyuk		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:14 PM

Entered By: Shaina Mitchell

1819222



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4Project Location CC2 MAINTENANCE BLDG.

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 21

	Sample ID	Description	A/R
1	CC2MB-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13	" - 5-01		
14	" - 5-02		
15	" - 5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18	5pm
				10/01/18	9:20am
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	<i>Amber S</i>	<i>[Signature]</i>	NVL	10/1/18	920
Analyzed by					
Called by					
Faxed/Email by					

1819222



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| <input type="checkbox"/> 1 Hour | <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 4 Days |
| <input type="checkbox"/> 2 Hours | <input type="checkbox"/> 2 Days | <input type="checkbox"/> 5 Days |
| <input type="checkbox"/> 4 Hours | <input type="checkbox"/> 3 Days | <input type="checkbox"/> 10 Days |

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM CorporationProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240 - 0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206.438.2700Fax (866) 495 - 5288Project Name/Number 60537920 Task 2.4Project Location CC2 MAINTENANCE BLDG.

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> PCM Air (NIOSH 7400) | <input type="checkbox"/> TEM (NIOSH 7402) | <input type="checkbox"/> TEM (AHERA) | <input type="checkbox"/> TEM (EPA Level II Modified) |
| <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) | <input type="checkbox"/> EPA 400 Points (600/R-93-116) | <input type="checkbox"/> EPA 1000 Points (600/R-93-116) | |
| <input type="checkbox"/> PLM Gravimetry (600/R-93-116) | <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) | <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) | |
| <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) | <input type="checkbox"/> Other | | |

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com
Total Number of Samples 21

	Sample ID	Description	A/R
1	CC2MB-6-01		
2	" - 6-02		
3	" - 6-03		
4	" - 7-01		
5	" - 7-02		
6	" - 7-03		
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:20am
Office Use Only					
Received by	<i>Emilio S</i>	<i>Emilio S</i>	AECOM	10/1/18	9:20
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819252.00

Client Project: 60537920 Task 2.4
Location: CC2 Maintenance Storage Bldg.

Dear Ms. Gladu,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Macfarlane".

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Maintenance Storage Bldg.

Batch #: 1819252.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098467 Client Sample #: CC2MSB-1-01

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 3 Description: Black roofing material with granules

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Fine grains, Granules

Glass fibers 18%

None Detected ND

Layer 2 of 3 Description: Black asphaltic mastic

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Miscellaneous particles

Glass fibers 2%

None Detected ND

Layer 3 of 3 Description: Black roofing material with granules

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Fine grains, Granules

Glass fibers 16%

None Detected ND

Lab ID: 18098468 Client Sample #: CC2MSB-1-02

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 2 Description: Black roofing material with granules

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Fine grains, Granules

Glass fibers 15%

None Detected ND

Layer 2 of 2 Description: Black asphaltic mastic

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Miscellaneous particles

Glass fibers 3%

None Detected ND

Cellulose 1%

Lab ID: 18098469 Client Sample #: CC2MSB-1-03

Location: CC2 Maintenance Storage Bldg.

Layer 1 of 3 Description: Black roofing material with granules

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Asphalt/Binder, Fine grains, Granules

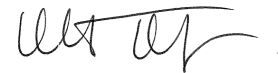
Glass fibers 16%

None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/03/2018



Reviewed by: Matt Macfarlane

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Maintenance Storage Bldg.

Batch #: 1819252.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

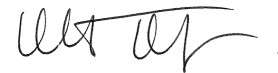
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3	Description: Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Miscellaneous particles	Glass fibers 2%		None Detected ND
Layer 3 of 3	Description: Black roofing material with granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Granules	Glass fibers 17%		None Detected ND

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/03/2018



Reviewed by: Matt Macfarlane

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** 1819252.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:25 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Maintenance Storage Bldg.

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098467	CC2MSB-1-01		A
2	18098468	CC2MSB-1-02		A
3	18098469	CC2MSB-1-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	925
Analyzed by	Daniel		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special TAT confirmed verbally by Shannon MacKay

Instructions:

Date: 10/1/2018

Time: 1:34 PM

Entered By: Shaista Khan



ASBESTOS CHAIN OF CUSTODY

1819252

Turn Around Time

- ☐ 1 Hour ☒ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CCZ MAINTENANCE STORAGE BLDG.</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other	

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 3

	Sample ID	Description	A/R
1	CCZMSB- SM 1-01		
2	" - 1-02		
3	" - 1-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/25/18	5pm
				10/01/18	9:25 am
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:25
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819248.00

Client Project: 60537920 Task 2.4
Location: CC2 Powerhouse

Dear Ms. Gladu,

Enclosed please find test results for the 9 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Powerhouse

Batch #: 1819248.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098416 Client Sample #: CC2PH-1-01

Location: CC2 Powerhouse

Layer 1 of 2 Description: Silver paint

Non-Fibrous Materials:
Metallic paint, Miscellaneous particles

Other Fibrous Materials:%
Cellulose 3%

**Asbestos Type: %
None Detected ND**

Layer 2 of 2 Description: Orange rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine particles

Other Fibrous Materials:%
Cellulose 2%

**Asbestos Type: %
None Detected ND**

Lab ID: 18098417 Client Sample #: CC2PH-1-02

Location: CC2 Powerhouse

Layer 1 of 2 Description: Silver paint

Non-Fibrous Materials:
Metallic paint, Miscellaneous particles

Other Fibrous Materials:%
Cellulose 2%

**Asbestos Type: %
None Detected ND**

Layer 2 of 2 Description: Orange rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine particles

Other Fibrous Materials:%
Cellulose 3%

**Asbestos Type: %
None Detected ND**

Lab ID: 18098418 Client Sample #: CC2PH-1-03

Location: CC2 Powerhouse

Layer 1 of 2 Description: Silver paint

Non-Fibrous Materials:
Metallic paint, Miscellaneous particles

Other Fibrous Materials:%
Cellulose 1%

**Asbestos Type: %
None Detected ND**

Layer 2 of 2 Description: Orange rubbery material

Non-Fibrous Materials:
Vinyl/Binder, Fine particles

Other Fibrous Materials:%
Cellulose 2%

**Asbestos Type: %
None Detected ND**

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Powerhouse

Batch #: 1819248.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098419 Client Sample #: CC2PH-2-01

Location: CC2 Powerhouse

Layer 1 of 1 Description: Off-white crumbly material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose 1%	

Lab ID: 18098420 Client Sample #: CC2PH-2-02

Location: CC2 Powerhouse

Layer 1 of 1 Description: Off-white crumbly material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose 2%	

Lab ID: 18098421 Client Sample #: CC2PH-2-03

Location: CC2 Powerhouse

Layer 1 of 1 Description: Off-white crumbly material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose <1%	

Lab ID: 18098422 Client Sample #: CC2PH-3-01

Location: CC2 Powerhouse

Layer 1 of 1 Description: Off-white crumbly material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose 1%	

Lab ID: 18098423 Client Sample #: CC2PH-3-02

Location: CC2 Powerhouse

Layer 1 of 1 Description: Tan brittle material with paint and debris

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: % None Detected ND
Binder/Filler, Fine particles, Paint	Cellulose <1%	

Sampled by: Client

Analyzed by: Daniel Charbonneaux

Date: 10/04/2018

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Powerhouse

Batch #: 1819248.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 9

Samples Analyzed: 9

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

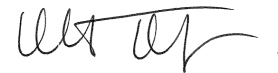
Debris

Lab ID: 18098424 **Client Sample #: CC2PH-3-03**

Location: CC2 Powerhouse

Layer 1 of 1 **Description:** Tan brittle material with paint and debris

Non-Fibrous Materials:	Other Fibrous Materials:%
Binder/Filler, Fine particles, Paint	Cellulose 2%
Debris	

Asbestos Type: %**None Detected ND****Sampled by:** Client**Analyzed by:** Daniel Charbonneaux**Date:** 10/04/2018**Reviewed by:** Matt Macfarlane**Date:** 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819248.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:20 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Powerhouse

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 9

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098416	CC2PH-1-01		A
2	18098417	CC2PH-1-02		A
3	18098418	CC2PH-1-03		A
4	18098419	CC2PH-2-01		A
5	18098420	CC2PH-2-02		A
6	18098421	CC2PH-2-03		A
7	18098422	CC2PH-3-01		A
8	18098423	CC2PH-3-02		A
9	18098424	CC2PH-3-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	920
Analyzed by	Daniel		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 1:18 PM

Entered By: Shaista Khan

1819248



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206.438.2700

Project Manager Nicole Gladu
 Cell (206) 240 - 0644
 Email nicole.gladu@aecom.com
 Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 POWERHOUSE

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 9

	Sample ID	Description	A/R
1	CC2PH-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/25/18	5pm
				10/01/18	9:20am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/11/18	9:20
Analyzed by					
Called by					
Faxed/Email by					

December 26, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1825183.00

Client Project: 60537920 Task 2.4
Location: Copco 2 Residence 3

Dear Ms. Gladu,

Enclosed please find test results for the 5 sample(s) submitted to our laboratory for analysis on 12/21/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Munaf Khan".

Munaf Khan, Laboratory Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: Copco 2 Residence 3

Batch #: 1825183.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 5

Samples Analyzed: 5

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18129771 Client Sample #: CC2R3-2-01

Location: Copco 2 Residence 3

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Vinyl/Binder	None Detected ND	
Layer 2 of 2	Description: Black asphaltic fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Mastic/Binder, Fine particles	Cellulose 91%	

Lab ID: 18129772 Client Sample #: CC2R3-2-02

Location: Copco 2 Residence 3

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Vinyl/Binder, Metallic flakes, Paint	None Detected ND	
Layer 2 of 2	Description: Black asphaltic fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Mastic/Binder, Fine particles	Cellulose 88%	

Lab ID: 18129773 Client Sample #: CC2R3-2-03

Location: Copco 2 Residence 3

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Vinyl/Binder, Metallic flakes	None Detected ND	
Layer 2 of 2	Description: Black asphaltic fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
		Binder/Filler, Mastic/Binder, Fine particles	Cellulose 88%	


Sampled by: Client

Analyzed by: William Minor

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018


Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: Copco 2 Residence 3

Batch #: 1825183.00

Client Project #: 60537920 Task 2.4

Date Received: 12/21/2018

Samples Received: 5

Samples Analyzed: 5

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18129774 Client Sample #: CC2R3-3-04

Location: Copco 2 Residence 3

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Brown brittle mastic

Non-Fibrous Materials:
Mastic/Binder, Fine particles, Calcareous particles

Other Fibrous Materials:%
Cellulose 3%

Asbestos Type: %
None Detected ND

Lab ID: 18129775 Client Sample #: CC2R3-4-04

Location: Copco 2 Residence 3

Layer 1 of 3 Description: Off-white compacted powdery material with paint

Non-Fibrous Materials:
Calcareous binder, Calcareous particles, Paint

Other Fibrous Materials:%
Cellulose <1%

Asbestos Type: %
None Detected ND

Layer 2 of 3 Description: White compacted powdery material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
None Detected ND

Layer 3 of 3 Description: White chalky material with paper

Non-Fibrous Materials:
Gypsum/Binder

Other Fibrous Materials:%
Cellulose 24%
Talc fibers 2%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: William Minor

Reviewed by: Munaf Khan

Date: 12/26/2018

Date: 12/26/2018



Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES



Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1825183.00
TAT 1 Day **AH** No
Rush TAT
Due Date 12/26/2018 **Time** 4:55 PM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** Copco 2 Residence 3

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 5

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18129771	CC2R3-2-01		A
2	18129772	CC2R3-2-02		A
3	18129773	CC2R3-2-03		A
4	18129774	CC2R3-3-04		A
5	18129775	CC2R3-4-04		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	12/21/18	1655
Analyzed by	William Minor		NVL	12/26/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 12/26/2018
 Time: 11:12 AM
 Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

Turn Around Time...

☐ 1 Hour ☒ 24 Hours
☐ 2 Hours ☐ 2 Days
☐ 4 Hours ☐ 3 Days

8pm
☐ 5 Days
☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location Copco 2 Residence 3

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 5

	Sample ID	Description	A/R
1	CC2R3-2-01		
2	CC2R3-2-02		
3	CC2R3-2-03		
4	CC2R3-3-04		
5	CC2R3-4-04		
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	12/19/18	11:00 am
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	12/21/18	6:00 pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	S. Mitchell	<i>S. Mitchell</i>	NVL	12/21/18	16:55
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819282.00

Client Project: 60537920 Task 2.4
Location: CC2 Residence 3

Dear Ms. Gladu,

Enclosed please find test results for the 33 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read "Nick Ly".

Nick Ly, Technical Director



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098642 Client Sample #: CC2R3-1-01

Location: CC2 Residence 3

Layer 1 of 2 Description: Beige patterned vinyl

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Vinyl/Binder

None Detected ND

None Detected ND

Layer 2 of 2 Description: Off-white fibrous backing with crumbly yellow mastic

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Mastic/Binder

Cellulose 25%

Chrysotile 48%

Lab ID: 18098643 Client Sample #: CC2R3-1-02

Location: CC2 Residence 3

Layer 1 of 2 Description: Beige patterned vinyl

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Vinyl/Binder

None Detected ND

None Detected ND

Layer 2 of 2 Description: Off-white fibrous backing w/ crumbly yellow mastic

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Mastic/Binder

Cellulose 22%

Chrysotile 54%

Lab ID: 18098644 Client Sample #: CC2R3-1-03

Location: CC2 Residence 3

Layer 1 of 2 Description: Beige patterned vinyl

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Vinyl/Binder

None Detected ND

None Detected ND

Layer 2 of 2 Description: Off-white fibrous backing with crumbly yellow mastic

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Mastic/Binder

Cellulose 30%

Chrysotile 49%

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098645 Client Sample #: CC2R3-3-01

Location: CC2 Residence 3

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Rubber/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Soft off-white mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098646 Client Sample #: CC2R3-3-02

Location: CC2 Residence 3

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Rubber/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Soft off-white mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098647 Client Sample #: CC2R3-3-03

Location: CC2 Residence 3

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Rubber/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Soft off-white mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098648 Client Sample #: CC2R3-4-01

Location: CC2 Residence 3

Layer 1 of 1 Description: White chalky material with paper

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Gypsum/Binder

Cellulose 14%

None Detected ND

Lab ID: 18098649 Client Sample #: CC2R3-4-02

Location: CC2 Residence 3

Layer 1 of 2 Description: Off-white compacted powdery material with paint

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Calcareous binder, Paint

Cellulose 3%

None Detected ND

Layer 2 of 2 Description: Chalky white material with paper

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Gypsum/Binder

Cellulose 15%

None Detected ND

Lab ID: 18098650 Client Sample #: CC2R3-4-03

Location: CC2 Residence 3

Layer 1 of 2 Description: White compacted powdery material with paint

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Calcareous binder, Paint

None Detected ND

None Detected ND

Layer 2 of 2 Description: White chalky material with paper

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Gypsum/Binder

Cellulose 10%

None Detected ND

Lab ID: 18098651 Client Sample #: CC2R3-5-01

Location: CC2 Residence 3

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: White/off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Paint	None Detected ND		None Detected ND

Lab ID: 18098652 **Client Sample #: CC2R3-5-02**

Location: CC2 Residence 3

Layer 1 of 1	Description: White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Paint	None Detected ND		None Detected ND

Lab ID: 18098653 **Client Sample #: CC2R3-5-03**

Location: CC2 Residence 3

Layer 1 of 1	Description: White/off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Paint	None Detected ND		None Detected ND

Lab ID: 18098654 **Client Sample #: CC2R3-6-01**

Location: CC2 Residence 3

Layer 1 of 2	Description: Brittle black mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Cellulose 1%		Chrysotile 3%

Layer 2 of 2	Description: Brown fibrous material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Paint	Cellulose 85%		None Detected ND

Lab ID: 18098655 **Client Sample #: CC2R3-6-02**

Location: CC2 Residence 3

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Brittle black mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	Cellulose 2%	Chrysotile 4%

Layer 2 of 2	Description: Brown fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Paint	Cellulose 90%	None Detected ND

Lab ID: 18098656 **Client Sample #: CC2R3-6-03**

Location: CC2 Residence 3

Layer 1 of 2	Description: Brittle black mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	Cellulose 2%	Chrysotile 3%

Layer 2 of 2	Description: Brown fibrous material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Paint	Cellulose 88%	None Detected ND

Lab ID: 18098657 **Client Sample #: CC2R3-7-01**

Location: CC2 Residence 3

Layer 1 of 1	Description: Grey crumbly material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Cement/Binder, Fine grains, Mineral grains	Cellulose <1%	None Detected ND

Lab ID: 18098658 **Client Sample #: CC2R3-7-02**

Location: CC2 Residence 3

Layer 1 of 1	Description: Grey crumbly material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Cement/Binder, Fine grains, Mineral grains	None Detected ND	None Detected ND
		Fine particles		

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098659 Client Sample #: CC2R3-7-03

Location: CC2 Residence 3

Layer 1 of 1 Description: Grey crumbly material

Non-Fibrous Materials:
Cement/Binder, Mineral grains, Fine grains
Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098660 Client Sample #: CC2R3-9-01

Location: CC2 Residence 3

Layer 1 of 1 Description: Black asphaltic material with granules

Non-Fibrous Materials:
Asphalt/Binder, Granules, Fine grains

Other Fibrous Materials:%
Cellulose 10%

Asbestos Type: %
None Detected ND

Lab ID: 18098661 Client Sample #: CC2R3-9-02

Location: CC2 Residence 3

Layer 1 of 1 Description: Black asphaltic material with granules

Non-Fibrous Materials:
Asphalt/Binder, Granules, Fine grains
Fine particles

Other Fibrous Materials:%
Cellulose 6%

Asbestos Type: %
None Detected ND

Lab ID: 18098662 Client Sample #: CC2R3-9-03

Location: CC2 Residence 3

Layer 1 of 1 Description: Black asphaltic material with granules

Non-Fibrous Materials:
Asphalt/Binder, Granules, Fine grains

Other Fibrous Materials:%
Cellulose 8%

Asbestos Type: %
None Detected ND

Lab ID: 18098663 Client Sample #: CC2R3-10-01

Location: CC2 Residence 3

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder	Cellulose 92%		None Detected ND

Lab ID: 18098664 **Client Sample #: CC2R3-10-02**

Location: CC2 Residence 3

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Fine particles	Cellulose 88%		None Detected ND

Lab ID: 18098665 **Client Sample #: CC2R3-10-03**

Location: CC2 Residence 3

Layer 1 of 1	Description: Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Fine grains, Fine particles	Cellulose 87%		None Detected ND

Lab ID: 18098666 **Client Sample #: CC2R3-11-01**

Location: CC2 Residence 3

Layer 1 of 1	Description: Grey fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Organic debris	Cellulose 90%		None Detected ND

Lab ID: 18098667 **Client Sample #: CC2R3-11-02**

Location: CC2 Residence 3

Layer 1 of 1	Description: Grey fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Organic debris	Cellulose 95%		None Detected ND

Lab ID: 18098668 **Client Sample #: CC2R3-11-03**

Location: CC2 Residence 3

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Grey fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles, Organic debris	Cellulose 94%		None Detected ND
	Miscellaneous particles	Spider silk 1%		

Lab ID: 18098669 Client Sample #: CC2R3-12-01

Location: CC2 Residence 3

Layer 1 of 1	Description: Black asphaltic material with granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 17%		None Detected ND

Lab ID: 18098670 Client Sample #: CC2R3-12-02

Location: CC2 Residence 3

Layer 1 of 1	Description: Black asphaltic material with granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 25%		None Detected ND
	Fine grains, Fine particles	Cellulose <1%		

Lab ID: 18098671 Client Sample #: CC2R3-12-03

Location: CC2 Residence 3

Layer 1 of 1	Description: Black asphaltic material with granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 20%		None Detected ND
	Fine grains, Fine particles, Organic debris	Cellulose 2%		

Lab ID: 18098672 Client Sample #: CC2R3-13-01

Location: CC2 Residence 3

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 3

Batch #: 1819282.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 33

Samples Analyzed: 33

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Crumbly white material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose <1%		None Detected ND

Lab ID: 18098673 **Client Sample #: CC2R3-13-02**

Location: CC2 Residence 3

Layer 1 of 1	Description: Crumbly white material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Wood fibers 5%		None Detected ND

Lab ID: 18098674 **Client Sample #: CC2R3-13-03**

Location: CC2 Residence 3

Layer 1 of 1	Description: Crumbly white material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Wood fibers 5%		None Detected ND

Sampled by: Client

Analyzed by: Matt Macfarlane

Reviewed by: Nick Ly

Date: 10/05/2018

Date: 10/05/2018



Nick Ly, Technical Director

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Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819282.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 3

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 33

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098642	CC2R3-1-01		A
2	18098643	CC2R3-1-02		A
3	18098644	CC2R3-1-03		A
4	18098645	CC2R3-3-01		A
5	18098646	CC2R3-3-02		A
6	18098647	CC2R3-3-03		A
7	18098648	CC2R3-4-01		A
8	18098649	CC2R3-4-02		A
9	18098650	CC2R3-4-03		A
10	18098651	CC2R3-5-01		A
11	18098652	CC2R3-5-02		A
12	18098653	CC2R3-5-03		A
13	18098654	CC2R3-6-01		A
14	18098655	CC2R3-6-02		A
15	18098656	CC2R3-6-03		A
16	18098657	CC2R3-7-01		A
17	18098658	CC2R3-7-02		A
18	18098659	CC2R3-7-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Matt Macfarlane		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:57 PM

Entered By: Emily Schubert

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819282.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 3

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 33

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18098660	CC2R3-9-01		A
20	18098661	CC2R3-9-02		A
21	18098662	CC2R3-9-03		A
22	18098663	CC2R3-10-01		A
23	18098664	CC2R3-10-02		A
24	18098665	CC2R3-10-03		A
25	18098666	CC2R3-11-01		A
26	18098667	CC2R3-11-02		A
27	18098668	CC2R3-11-03		A
28	18098669	CC2R3-12-01		A
29	18098670	CC2R3-12-02		A
30	18098671	CC2R3-12-03		A
31	18098672	CC2R3-13-01		A
32	18098673	CC2R3-13-02		A
33	18098674	CC2R3-13-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Matt Macfarlane		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:57 PM

Entered By: Emily Schubert



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call

1819282

Laboratory | Management | Training

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 RESIDENCE 3

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 33

	Sample ID	Description	A/R
1	CC2R3-1-01		
2	11-1-02		
3	11-1-03		
4	11-3-01		
5	11-3-02		
6	11-3-03		
7	11-4-01		
8	11-4-02		
9	11-4-03		
10	11-5-01		
11	11-5-02		
12	11-5-03		
13	11-6-01		
14	11-6-02		
15	11-6-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>[Signature]</i>	NVL	10/01/18	9:15am
Analyzed by					
Called by					
Faxed/Email by					



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hour

☐ 4 Hour

Please call

1819282

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 RESIDENCE 3

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 33

	Sample ID	Description	A/R
1	CC2R3-7-01		
2	" - 7-02		
3	" - 7-03		
4	" - 9-01		
5	" - 9-02		
6	" - 9-03		
7	" - 10-01		
8	" - 10-02		
9	" - 10-03		
10	" - 11-01		
11	" - 11-02		
12	" - 11-03		
13	" - 12-01		
14	" - 12-02		
15	" - 12-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call

1819282

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 RESIDENCE 3

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 33

	Sample ID	Description	A/R
1	CC2R3-13-01		
2	" - 13-02		
3	" - 13-03		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/14/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Shannon MacKay</i>	<i>Shannon MacKay</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819226.00

Client Project: 60537920 Task 2.4
Location: CC2 Residence 4

Dear Ms. Gladu,

Enclosed please find test results for the 37 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098293 Client Sample #: CC2R4-1-01

Location: CC2 Residence 4

Layer 1 of 3	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Vinyl/Binder	None Detected ND	
Layer 2 of 3	Description: Gray fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Fine particles, Mastic/Binder	Cellulose 28%	
			Glass fibers 13%	
			Synthetic fibers 10%	
Layer 3 of 3	Description: White chalky material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Fine grains	Cellulose 5%	

Lab ID: 18098294 Client Sample #: CC2R4-1-02

Location: CC2 RESIDENCE 4

Layer 1 of 3	Description: Beige sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Vinyl/Binder	None Detected ND	
Layer 2 of 3	Description: Gray fibrous backing with mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Mastic/Binder	Cellulose 41%	
			Glass fibers 8%	
			Synthetic fibers 15%	

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: White chalky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 3%		None Detected ND

Lab ID: 18098295 **Client Sample #: CC2R4-1-03**

Location: CC2 RESIDENCE 4

Layer 1 of 3	Description: Beige sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder	None Detected ND		None Detected ND

Layer 2 of 3	Description: Gray fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder	Cellulose 37%		None Detected ND
		Synthetic fibers 10%		
		Glass fibers 18%		

Layer 3 of 3	Description: White chalky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 6%		None Detected ND

Lab ID: 18098296 **Client Sample #: CC2R4-2-01**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: White lumpy material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Mica, Paint	None Detected ND		Chrysotile 6%

Lab ID: 18098297 **Client Sample #: CC2R4-2-02**

Location: CC2 RESIDENCE 4

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: White lumpy material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Mica, Paint	None Detected ND	Chrysotile 7%	

Lab ID: 18098298 **Client Sample #: CC2R4-2-03**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: White lumpy material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Mica, Paint	None Detected ND	Chrysotile 8%	

Lab ID: 18098299 **Client Sample #: CC2R4-2-04**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: White lumpy material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Mica, Paint	None Detected ND	Chrysotile 5%	

Lab ID: 18098300 **Client Sample #: CC2R4-2-05**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: White lumpy material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Mica, Paint	None Detected ND	Chrysotile 4%	

Lab ID: 18098301 **Client Sample #: CC2R4-3-01**

Location: CC2 RESIDENCE 4

Layer 1 of 3	Description: Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Paint	None Detected ND	Chrysotile 2%	

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3	Description: Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous binder	Cellulose 11%		Chrysotile 2%
Layer 3 of 3	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler, Mica	Cellulose 21%		None Detected ND
		Glass fibers 7%		

Lab ID: 18098302 Client Sample #: CC2R4-3-02

Location: CC2 RESIDENCE 4

Layer 1 of 2	Description: Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Binder/Filler	Cellulose 10%		Chrysotile 2%
Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler, Mica	Cellulose 18%		None Detected ND
		Glass fibers 6%		

Lab ID: 18098303 Client Sample #: CC2R4-3-03

Location: CC2 RESIDENCE 4

Layer 1 of 2	Description: Off-white compacted powdery material with paint and paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Binder/Filler, Paint	None Detected ND		Chrysotile 2%
Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler, Mica	Cellulose 20%		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Glass fibers 6%

Lab ID: 18098304 Client Sample #: CC2R4-4-01

Location: CC2 RESIDENCE 4

Layer 1 of 2 Description: Tan rubbery material

Non-Fibrous Materials:
Rubber/BinderOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: White soft mastic

Non-Fibrous Materials:
Mastic/BinderOther Fibrous Materials:%
Cellulose <1%Asbestos Type: %
None Detected ND

Lab ID: 18098305 Client Sample #: CC2R4-4-02

Location: CC2 RESIDENCE 4

Layer 1 of 2 Description: Tan rubbery material

Non-Fibrous Materials:
Rubber/BinderOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: White soft mastic

Non-Fibrous Materials:
Mastic/BinderOther Fibrous Materials:%
Spider silk 2%Asbestos Type: %
None Detected ND

Lab ID: 18098306 Client Sample #: CC2R4-4-03

Location: CC2 RESIDENCE 4

Layer 1 of 2 Description: Tan rubbery material

Non-Fibrous Materials:
Rubber/BinderOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Layer 2 of 2 Description: White soft mastic

Non-Fibrous Materials:
Mastic/BinderOther Fibrous Materials:%
None Detected NDAsbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018



 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098307 Client Sample #: CC2R4-5-01

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Off-white compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Binder/Filler, Paint	Cellulose 15%	Chrysotile 2%

Lab ID: 18098308 Client Sample #: CC2R4-5-02

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Off-white compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Binder/Filler, Paint	Cellulose 14%	Chrysotile 3%

Lab ID: 18098309 Client Sample #: CC2R4-5-03

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Off-white compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Binder/Filler, Paint	Cellulose 13%	Chrysotile 2%

Lab ID: 18098310 Client Sample #: CC2R4-5-04

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Off-white compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Binder/Filler, Calcareous binder, Paint	Cellulose 16%	Chrysotile 3%

Lab ID: 18098311 Client Sample #: CC2R4-5-05

Location: CC2 RESIDENCE 4

Layer 1 of 2 Description: Off-white compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Calcareous binder, Binder/Filler, Paint	None Detected ND	Chrysotile 2%

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler	Cellulose 28%		None Detected ND

Lab ID: 18098312 **Client Sample #: CC2R4-6-01**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral grains, Fine particles	None Detected ND		None Detected ND

Lab ID: 18098313 **Client Sample #: CC2R4-6-02**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral grains, Fine particles	None Detected ND		None Detected ND

Lab ID: 18098314 **Client Sample #: CC2R4-6-03**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral grains, Fine particles	None Detected ND		None Detected ND

Lab ID: 18098315 **Client Sample #: CC2R4-7-01**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Dark gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mineral grains, Fine particles	None Detected ND		None Detected ND

Lab ID: 18098316 **Client Sample #: CC2R4-7-02**

Location: CC2 RESIDENCE 4

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Dark gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mineral grains, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098317 **Client Sample #: CC2R4-7-03**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Dark gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mineral grains, Fine particles	Synthetic fibers <1%	None Detected ND	

Lab ID: 18098318 **Client Sample #: CC2R4-8-01**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray cementitious material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Cement/Binder, Paint	None Detected ND	Chrysotile 27%	

Lab ID: 18098319 **Client Sample #: CC2R4-8-02**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray cementitious material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Cement/Binder	None Detected ND	Chrysotile 29%	

Lab ID: 18098320 **Client Sample #: CC2R4-8-03**

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray cementitious material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Cement/Binder	None Detected ND	Chrysotile 28%	

Lab ID: 18098321 **Client Sample #: CC2R4-9-01**

Location: CC2 RESIDENCE 4

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Black asphaltic mastic with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler, Mastic/Binder	Cellulose 32%		None Detected ND
		Spider silk 3%		

Lab ID: 18098322 Client Sample #: CC2R4-9-02

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Black asphaltic mastic with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Mastic/Binder, Binder/Filler	Cellulose 38%		None Detected ND

Lab ID: 18098323 Client Sample #: CC2R4-9-03

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Black asphaltic mastic with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 37%		None Detected ND

Lab ID: 18098324 Client Sample #: CC2R4-10-01

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 2%		Chrysotile 23%

Lab ID: 18098325 Client Sample #: CC2R4-10-02

Location: CC2 RESIDENCE 4

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 3%		Chrysotile 27%

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819226.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 37

Samples Analyzed: 37

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098326 Client Sample #: CC2R4-10-03

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Gray cementitious material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 26%

Lab ID: 18098327 Client Sample #: CC2R4-11-01

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Black asphaltic fibrous material

Non-Fibrous Materials:
Asphalt/Binder, Binder/Filler

Other Fibrous Materials:%
Cellulose 64%

Asbestos Type: %
None Detected ND

Lab ID: 18098328 Client Sample #: CC2R4-11-02

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Black asphaltic fibrous material

Non-Fibrous Materials:
Asphalt/Binder, Binder/Filler

Other Fibrous Materials:%
Cellulose 62%

Asbestos Type: %
None Detected ND

Lab ID: 18098329 Client Sample #: CC2R4-11-03

Location: CC2 RESIDENCE 4

Layer 1 of 1 Description: Black asphaltic fibrous material

Non-Fibrous Materials:
Asphalt/Binder, Binder/Filler, Insect parts

Other Fibrous Materials:%
Cellulose 67%

Asbestos Type: %
None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle **NVL Batch Number** 1819226.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 4

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 37

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098293	CC2R4-1-01		A
2	18098294	CC2R4-1-02		A
3	18098295	CC2R4-1-03		A
4	18098296	CC2R4-2-01		A
5	18098297	CC2R4-2-02		A
6	18098298	CC2R4-2-03		A
7	18098299	CC2R4-2-04		A
8	18098300	CC2R4-2-05		A
9	18098301	CC2R4-3-01		A
10	18098302	CC2R4-3-02		A
11	18098303	CC2R4-3-03		A
12	18098304	CC2R4-4-01		A
13	18098305	CC2R4-4-02		A
14	18098306	CC2R4-4-03		A
15	18098307	CC2R4-5-01		A
16	18098308	CC2R4-5-02		A
17	18098309	CC2R4-5-03		A
18	18098310	CC2R4-5-04		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:21 PM

Entered By: Shaina Mitchell

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819226.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 4

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 37

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18098311	CC2R4-5-05		A
20	18098312	CC2R4-6-01		A
21	18098313	CC2R4-6-02		A
22	18098314	CC2R4-6-03		A
23	18098315	CC2R4-7-01		A
24	18098316	CC2R4-7-02		A
25	18098317	CC2R4-7-03		A
26	18098318	CC2R4-8-01		A
27	18098319	CC2R4-8-02		A
28	18098320	CC2R4-8-03		A
29	18098321	CC2R4-9-01		A
30	18098322	CC2R4-9-02		A
31	18098323	CC2R4-9-03		A
32	18098324	CC2R4-10-01		A
33	18098325	CC2R4-10-02		A
34	18098326	CC2R4-10-03		A
35	18098327	CC2R4-11-01		A
36	18098328	CC2R4-11-02		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:21 PM

Entered By: Shaina Mitchell

Company AECOM-Seattle **NVL Batch Number** **1819226.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 4

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 37

Rush Samples

	Lab ID	Sample ID	Description	A/R
37	18098329	CC2R4-11-03		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:21 PM

Entered By: Shaina Mitchell



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call for

1819226

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 RESIDENCE 4</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified)	
<input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116)	
<input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points)	
<input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other	

Reporting Instructions email Nicole Gladu

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 37

	Sample ID	Description	A/R
1	CC2R4-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 2-04		
8	" - 2-05		
9	" - 3-01		
10	" - 3-02		
11	" - 3-03		
12	" - 4-01		
13	" - 4-02		
14	" - 4-03		
15	" - 5-01		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18	5pm
				10/01/18	9:15am
				8/11	8/11
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>Emily S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hour

☐ 4 Hour

Please Call

1819226

Laboratory | Management | Training

Company **AECOM Corporation**

Project Manager **Nicole Gladu**

Address **1111 3rd Avenue, Suite 1600**

Cell (**206**) **240 - 0644**

Seattle, WA 98101

Email **nicole.gladu@aecom.com**

Phone **206.438.2700**

Fax (**866**) **495 - 5288**

Project Name/Number **60537920 Task 2.4**

Project Location **CC2 RESIDENCE 4**

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other

Reporting Instructions **email Nicole Gladu**

☐ Call ()

☐ Fax ()

☒ Email **shannon.mackay@aecom.com**

Total Number of Samples **37**

	Sample ID	Description	A/R
1	CC2R4-5-02		
2	" - 5-03		
3	" - 5-04		
4	" - 5-05		
5	" - 6-01		
6	" - 6-02		
7	" - 6-03		
8	" - 7-01		
9	" - 7-02		
10	" - 7-03		
11	" - 8-01		
12	" - 8-02		
13	" - 8-03		
14	" - 9-01		
15	" - 9-02		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
					10/01/18 8m 9/15 am 8m
Office Use Only					
Received by	<i>Emily S</i>	<i>Emily S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call for

1819226

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC2 RESIDENCE 4

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email

shannon.mackay@aecom.com

Total Number of Samples 37

	Sample ID	Description	A/R
1	CC2R4-9-03		
2	" - 10-01		
3	" - 10-02		
4	" - 10-03		
5	" - 11-01		
6	" - 11-02		
7	" - 11-03		
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
Office Use Only				10/01/18 8m	9:15 am em
Received by	Emilio S	<i>Emilio S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819232.00

Client Project: 60537920 Task 2.4
Location: CC2 RESIDENCE 5

Dear Ms. Gladu,

Enclosed please find test results for the 43 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098345 Client Sample #: CC2R5-1-01

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
Cellulose 3%

Asbestos Type: %
Chrysotile 28%

Lab ID: 18098346 Client Sample #: CC2R5-1-02

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
Chrysotile 30%

Lab ID: 18098347 Client Sample #: CC2R5-1-03

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Gray brittle material

Non-Fibrous Materials:
Binder/Filler, Fine particles

Other Fibrous Materials:%
Cellulose 2%

Asbestos Type: %
Chrysotile 27%

Lab ID: 18098348 Client Sample #: CC2R5-2-01

Location: CC2 RESIDENCE 5

Comments: Sample was dried prior to analysis.

Layer 1 of 1 Description: Black asphaltic fibrous material

Non-Fibrous Materials:
Asphalt/Binder, Binder/Filler

Other Fibrous Materials:%
Cellulose 68%

Asbestos Type: %
None Detected ND

Lab ID: 18098349 Client Sample #: CC2R5-2-02

Location: CC2 RESIDENCE 5

Comments: Sample was dried prior to analysis.

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 62%	None Detected ND

Lab ID: 18098350 **Client Sample #: CC2R5-2-03**

Location: CC2 RESIDENCE 5

Comments: Sample was dried prior to analysis.

Layer 1 of 1	Description: Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 57%	None Detected ND

Lab ID: 18098351 **Client Sample #: CC2R5-3-01**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Black asphaltic fibrous felt		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 74%	None Detected ND

Lab ID: 18098352 **Client Sample #: CC2R5-3-02**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Black asphaltic fibrous felt		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Binder/Filler	Cellulose 78%	None Detected ND

Lab ID: 18098353 **Client Sample #: CC2R5-3-03**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Black asphaltic mastic with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Mastic/Binder, Binder/Filler	Cellulose 38%	None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098354 Client Sample #: CC2R5-4-01

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Off-white lumpy material

Non-Fibrous Materials:
Binder/Filler, Mica, Fine particles

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 4%

Lab ID: 18098355 Client Sample #: CC2R5-4-02

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Off-white lumpy material

Non-Fibrous Materials:
Binder/Filler, Fine particles, Mica

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 7%

Lab ID: 18098356 Client Sample #: CC2R5-4-03

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Off-white lumpy material

Non-Fibrous Materials:
Binder/Filler, Fine particles, Mica

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 5%

Lab ID: 18098357 Client Sample #: CC2R5-4-04

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Off-white lumpy material

Non-Fibrous Materials:
Binder/Filler, Fine particles, Mica

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 5%

Lab ID: 18098358 Client Sample #: CC2R5-4-05

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: Off-white lumpy material

Non-Fibrous Materials:
Binder/Filler, Fine particles, Mica

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 6%

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098359 Client Sample #: CC2R5-5-01

Location: CC2 RESIDENCE 5

Layer 1 of 2 Description: White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %
Calcareous binder, Binder/Filler	Cellulose 10%

Asbestos Type: %

Chrysotile 2%

Layer 2 of 2 Description: White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %
Gypsum/Binder, Binder/Filler	Cellulose 18%
	Glass fibers 9%

Asbestos Type: %

None Detected ND

Lab ID: 18098360 Client Sample #: CC2R5-5-02

Location: CC2 RESIDENCE 5

Layer 1 of 3 Description: White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %
Calcareous binder, Paint	None Detected ND

Asbestos Type: %

Chrysotile 3%

Layer 2 of 3 Description: White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %
Binder/Filler, Calcareous particles	Cellulose 13%

Asbestos Type: %

Chrysotile 2%

Layer 3 of 3 Description: White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %
Gypsum/Binder, Binder/Filler, Mica	Cellulose 20%
	Glass fibers 7%

Asbestos Type: %

None Detected ND

Lab ID: 18098361 Client Sample #: CC2R5-5-03

Location: CC2 RESIDENCE 5

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	Description: White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Paint	Cellulose <1%		Chrysotile 3%
Layer 2 of 3	Description: White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Binder/Filler	Cellulose 10%		Chrysotile 2%
Layer 3 of 3	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler	Cellulose 23%		None Detected ND
		Glass fibers 4%		

Lab ID: 18098362 Client Sample #: CC2R5-6-01

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Beige rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Rubber/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Beige soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Cellulose <1%		None Detected ND

Lab ID: 18098363 Client Sample #: CC2R5-6-02

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Beige rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Rubber/Binder	None Detected ND		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	Description: Beige soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Spider silk 2%		None Detected ND

Lab ID: 18098364 **Client Sample #: CC2R5-6-03**

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Beige rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Rubber/Binder	None Detected ND		None Detected ND

Layer 2 of 2	Description: Beige soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Insect parts	Synthetic fibers <1%		None Detected ND

Lab ID: 18098365 **Client Sample #: CC2R5-7-01**

Location: CC2 RESIDENCE 5

Layer 1 of 3	Description: Beige sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Vinyl/Binder, Synthetic foam	None Detected ND		None Detected ND

Layer 2 of 3	Description: Tan fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Fine particles	Cellulose 48%		None Detected ND
		Glass fibers 17%		

Layer 3 of 3	Description: Off-white chalky material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 4%		None Detected ND

Lab ID: 18098366 **Client Sample #: CC2R5-7-02**

Location: CC2 RESIDENCE 5

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 4	Description: Beige sheet vinyl	Non-Fibrous Materials: Vinyl/Binder, Synthetic foam	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 4	Description: Tan fibrous backing with mastic	Non-Fibrous Materials: Binder/Filler, Mastic/Binder	Other Fibrous Materials:% Cellulose 48% Glass fibers 14%	Asbestos Type: % None Detected ND
Layer 3 of 4	Description: White chalky material	Non-Fibrous Materials: Binder/Filler, Fine particles	Other Fibrous Materials:% Cellulose 3%	Asbestos Type: % None Detected ND
Layer 4 of 4	Description: Green fibrous material with mastic	Non-Fibrous Materials: Binder/Filler, Mastic/Binder, Wood flakes	Other Fibrous Materials:% Cellulose 32% Synthetic fibers 25%	Asbestos Type: % None Detected ND

Lab ID: 18098367 **Client Sample #: CC2R5-7-03**

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Beige sheet vinyl	Non-Fibrous Materials: Vinyl/Binder, Synthetic foam	Other Fibrous Materials:% None Detected ND	Asbestos Type: % None Detected ND
Layer 2 of 2	Description: Tan fibrous backing with mastic	Non-Fibrous Materials: Mastic/Binder, Binder/Filler, Wood flakes	Other Fibrous Materials:% Cellulose 51% Glass fibers 14%	Asbestos Type: % None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

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Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098368 Client Sample #: CC2R5-8-01

Location: CC2 RESIDENCE 5

Layer 1 of 2 Description: Tan sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Gray fibrous backing with mastic

Non-Fibrous Materials:
Binder/Filler, Mastic/Binder

Other Fibrous Materials:%
Cellulose 35%
Synthetic fibers 8%
Glass fibers 12%

Asbestos Type: %
None Detected ND

Lab ID: 18098369 Client Sample #: CC2R5-8-02

Location: CC2 RESIDENCE 5

Layer 1 of 2 Description: Tan sheet vinyl

Non-Fibrous Materials:
Vinyl/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Gray fibrous backing with mastic (on wood)

Non-Fibrous Materials:
Binder/Filler, Mastic/Binder, Wood flakes

Other Fibrous Materials:%
Cellulose 31%
Glass fibers 15%
Synthetic fibers 10%

Asbestos Type: %
None Detected ND

Lab ID: 18098370 Client Sample #: CC2R5-8-03

Location: CC2 RESIDENCE 5

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Tan sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Vinyl/Binder	None Detected ND	None Detected ND
Layer 2 of 2	Description: Gray fibrous backing with mastic (on wood)	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Mastic/Binder, Wood flakes	Cellulose 36%	None Detected ND
			Synthetic fibers 10%	
			Glass fibers 13%	

Lab ID: 18098371 **Client Sample #: CC2R5-9-01**

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Brown rubbery material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Rubber/Binder	None Detected ND	None Detected ND
Layer 2 of 2	Description: Beige soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder	Cellulose <1%	None Detected ND

Lab ID: 18098373 **Client Sample #: CC2R5-9-02**

Location: CC2 RESIDENCE 5

Layer 1 of 2	Description: Brown rubbery material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Rubber/Binder	None Detected ND	None Detected ND
Layer 2 of 2	Description: Beige soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Mastic/Binder, Insect parts	Cellulose <1%	None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018


Matt Macfarlane, Asbestos Lab Supervisor

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Bulk Asbestos Fibers Analysis

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Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098375 Client Sample #: CC2R5-9-03

Location: CC2 RESIDENCE 5

Layer 1 of 2 Description: Brown rubbery material

Non-Fibrous Materials:
Rubber/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Layer 2 of 2 Description: Beige soft mastic

Non-Fibrous Materials:
Mastic/Binder

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
None Detected ND

Lab ID: 18098377 Client Sample #: CC2R5-10-01

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: White textured powdery material with paint

Non-Fibrous Materials:
Calcareous binder, Paint

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 2%

Lab ID: 18098378 Client Sample #: CC2R5-10-02

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: White textured powdery material with paint

Non-Fibrous Materials:
Calcareous binder, Paint

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 3%

Lab ID: 18098379 Client Sample #: CC2R5-10-03

Location: CC2 RESIDENCE 5

Layer 1 of 1 Description: White textured powdery material with paint

Non-Fibrous Materials:
Calcareous binder, Paint

Other Fibrous Materials:%
None Detected ND

Asbestos Type: %
Chrysotile 2%

Lab ID: 18098380 Client Sample #: CC2R5-11-01

Location: CC2 RESIDENCE 5

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

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Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mineral grains, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098381 **Client Sample #: CC2R5-11-02**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mineral grains, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098382 **Client Sample #: CC2R5-11-03**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Gray brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Mineral grains, Fine particles	Spider silk 2%	None Detected ND	

Lab ID: 18098383 **Client Sample #: CC2R5-12-01**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Gray sandy brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Sand, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098384 **Client Sample #: CC2R5-12-02**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Gray sandy brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %	
	Sand, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098385 **Client Sample #: CC2R5-12-03**

Location: CC2 RESIDENCE 5

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1	Description: Gray sandy brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Sand, Fine particles	None Detected ND	None Detected ND	

Lab ID: 18098386 **Client Sample #: CC2R5-13-01**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Off-white compacted powdery material with paper and paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Binder/Filler, Paint	Cellulose 14%	Chrysotile 2%	

Lab ID: 18098387 **Client Sample #: CC2R5-13-02**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Off-white compacted powdery material with paper and paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Binder/Filler, Paint	Cellulose 8%	Chrysotile 3%	

Lab ID: 18098388 **Client Sample #: CC2R5-13-03**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Off-white compacted powdery material with paper and paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Binder/Filler, Paint	Cellulose 10%	Chrysotile 3%	

Lab ID: 18098389 **Client Sample #: CC2R5-13-04**

Location: CC2 RESIDENCE 5

Layer 1 of 1	Description: Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %	
	Calcareous binder, Paint	None Detected ND	Chrysotile 2%	

Lab ID: 18098390 **Client Sample #: CC2R5-13-05**

Location: CC2 RESIDENCE 5

Sampled by: Client**Analyzed by:** Welly Hsieh**Reviewed by:** Matt Macfarlane**Date:** 10/03/2018**Date:** 10/04/2018


 Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 RESIDENCE 5

Batch #: 1819232.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 43

Samples Analyzed: 43

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous binder, Paint	None Detected ND		Chrysotile 2%
Layer 2 of 2	Description: White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Gypsum/Binder, Binder/Filler, Mica	Cellulose 25%		None Detected ND

Sampled by: Client

Analyzed by: Welly Hsieh

Reviewed by: Matt Macfarlane

Date: 10/03/2018

Date: 10/04/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819232.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 RESIDENCE 5

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 43

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098345	CC2R5-1-01		A
2	18098346	CC2R5-1-02		A
3	18098347	CC2R5-1-03		A
4	18098348	CC2R5-2-01		A
5	18098349	CC2R5-2-02		A
6	18098350	CC2R5-2-03		A
7	18098351	CC2R5-3-01		A
8	18098352	CC2R5-3-02		A
9	18098353	CC2R5-3-03		A
10	18098354	CC2R5-4-01		A
11	18098355	CC2R5-4-02		A
12	18098356	CC2R5-4-03		A
13	18098357	CC2R5-4-04		A
14	18098358	CC2R5-4-05		A
15	18098359	CC2R5-5-01		A
16	18098360	CC2R5-5-02		A
17	18098361	CC2R5-5-03		A
18	18098362	CC2R5-6-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:41 PM

Entered By: Shaina Mitchell

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819232.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:15 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 RESIDENCE 5

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 43

Rush Samples

	Lab ID	Sample ID	Description	A/R
19	18098363	CC2R5-6-02		A
20	18098364	CC2R5-6-03		A
21	18098365	CC2R5-7-01		A
22	18098366	CC2R5-7-02		A
23	18098367	CC2R5-7-03		A
24	18098368	CC2R5-8-01		A
25	18098369	CC2R5-8-02		A
26	18098370	CC2R5-8-03		A
27	18098371	CC2R5-9-01		A
28	18098373	CC2R5-9-02		A
29	18098375	CC2R5-9-03		A
30	18098377	CC2R5-10-01		A
31	18098378	CC2R5-10-02		A
32	18098379	CC2R5-10-03		A
33	18098380	CC2R5-11-01		A
34	18098381	CC2R5-11-02		A
35	18098382	CC2R5-11-03		A
36	18098383	CC2R5-12-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:41 PM

Entered By: Shaina Mitchell

Company AECOM-Seattle **NVL Batch Number** 1819232.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 RESIDENCE 5

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 43

Rush Samples

	Lab ID	Sample ID	Description	A/R
37	18098384	CC2R5-12-02		A
38	18098385	CC2R5-12-03		A
39	18098386	CC2R5-13-01		A
40	18098387	CC2R5-13-02		A
41	18098388	CC2R5-13-03		A
42	18098389	CC2R5-13-04		A
43	18098390	CC2R5-13-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Welly Hsieh		NVL	10/3/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:41 PM

Entered By: Shaina Mitchell



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call 1

1819232

Laboratory | Management | Training

Company **AECOM Corporation**

Project Manager **Nicole Gladu**

Address **1111 3rd Avenue, Suite 1600**

Cell **(206) 240 - 0644**

Seattle, WA 98101

Email **nicole.gladu@aecom.com**

Phone **206.438.2700**

Fax **(866) 495 - 5288**

Project Name/Number **60537920 Task 2.4**

Project Location **CC2 RESIDENCE 5**

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other

Reporting Instructions **email Nicole Gladu**

☐ Call ()

☐ Fax ()

☒ Email **shannon.mackay@aecom.com**

Total Number of Samples **43**

	Sample ID	Description	A/R
1	CC2R5-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13	" - 4-04		
14	" - 4-05		
15	" - 5-01		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/1/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
Office Use Only					
Received by	Emile S	<i>Emile S</i>	NVL	10/1/18	7:15 am
Analyzed by					
Called by					
Faxed/Email by					



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call for

1819232

Laboratory | Management | Training

Company AECOM Corporation

Project Manager Nicole Gladu

Address 1111 3rd Avenue, Suite 1600

Cell (206) 240 - 0644

Seattle, WA 98101

Email nicole.gladu@aecom.com

Phone 206.438.2700

Fax (866) 495 - 5288

Project Name/Number 60537920 Task 2.4

Project Location CC 2 RESIDENCE 5

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 43

	Sample ID	Description	A/R
1	CC 2RS-5-02		
2	" - 5-03		
3	" - 6-01		
4	" - 6-02		
5	" - 6-03		
6	" - 7-01		
7	" - 7-02		
8	" - 7-03		
9	" - 8-01		
10	" - 8-02		
11	" - 8-03		
12	" - 9-01		
13	" - 9-02		
14	" - 9-03		
15	" - 10-01		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC		AECOM	9/11/18 - 9/13/18	8am-4pm
Relinquish by	Shannon MacKay		AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emm Ours		NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					



Laboratory | Management | Training

ASBESTOS CHAIN OF CUSTODY

Turn Around Time

☐ 1 Hour

☐ 24 Hours

☐ 4 Days

☐ 2 Hours

☐ 4 Hours

Please call

1819232

Company AECOM Corporation
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206.438.2700

Project Manager Nicole Gladu
Cell (206) 240 - 0644
Email nicole.gladu@aecom.com
Fax (866) 495 - 5288

Project Name/Number <u>60537920 Task 2.4</u>	Project Location <u>CC2 RESIDENCE 3</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000 Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions email Nicole Gladu
☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 43

	Sample ID	Description	A/R
1	CC2RS - 10-02		
2	" - 10-03		
3	" - 11-01		
4	" - 11-02		
5	" - 11-03		
6	" - 12-01		
7	" - 12-02		
8	" - 12-03		
9	" - 13-01		
10	" - 13-02		
11	" - 13-03		
12	" - 13-04		
13	" - 13-05		
14	mm gm		
15	42		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/18/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu
AECOM-Seattle
1111 3rd Avenue Ste. 1600
Seattle, WA 98101



RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1819280.00

Client Project: 60537920 Task 2.4
Location: CC2 Residence 6

Dear Ms. Gladu,

Enclosed please find test results for the 17 sample(s) submitted to our laboratory for analysis on 10/1/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor



Lab Code: 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098625 Client Sample #: CC2R6-1-01

Location: CC2 Residence 6

Comments: Qualitative analysis was conducted for the presence of asbestos fibers in this layer 1.

Layer 1 of 2 Description: Off-white sheet vinyl with adhesive and debris

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Adhesive/Binder, Fine particles, Synthetic foam	Cellulose	None Detected ND
Vinyl/Binder	Synthetic fibers	
	Hair	

Layer 2 of 2 Description: Tan fibrous backing with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Binder/Filler, Calcareous particles, Fine particles	Cellulose 4%	None Detected ND
Mastic/Binder	Glass fibers 5%	
	Synthetic fibers 20%	

Lab ID: 18098626 Client Sample #: CC2R6-1-02

Location: CC2 Residence 6

Layer 1 of 3 Description: Off-white sheet vinyl with pattern

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Synthetic foam, Vinyl/Binder	None Detected ND	None Detected ND

Layer 2 of 3 Description: Light gray fibrous backing with yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
Binder/Filler, Calcareous particles, Fine particles	Cellulose 15%	None Detected ND
Mastic/Binder	Glass fibers 6%	
	Synthetic fibers 23%	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018


Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: Brown brittle mastic on wood			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Wood	None Detected ND		None Detected ND

Lab ID: 18098627 **Client Sample #: CC2R6-1-03**

Location: CC2 Residence 6

Layer 1 of 2	Description: Off-white sheet vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Synthetic foam, Vinyl/Binder	None Detected ND		None Detected ND

Layer 2 of 2	Description: Light gray fibrous backing with yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Calcareous particles, Fine particles	Cellulose 25%		None Detected ND
	Mastic/Binder	Glass fibers 4%		
		Synthetic fibers 14%		

Lab ID: 18098628 **Client Sample #: CC2R6-2-01**

Location: CC2 Residence 6

Layer 1 of 3	Description: Tan linoleum with trace thin adhesive surface			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Adhesive/Binder, Calcareous particles, Linoleum/Binder	Cellulose 10%		None Detected ND

Layer 2 of 3	Description: Brown/green fibrous backing with brown mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder	Cellulose 26%		None Detected ND
		Synthetic fibers 18%		

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	Description: Tan wooden compressed fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Adhesive/Binder, Binder/Filler	Wood fibers 33%		None Detected ND

Lab ID: 18098629 **Client Sample #: CC2R6-2-02**

Location: CC2 Residence 6

Layer 1 of 2	Description: Tan linoleum			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous particles, Linoleum/Binder	Cellulose 9%		None Detected ND

Layer 2 of 2	Description: Brown/green fibrous backing with brown mastic and paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder, Paint	Cellulose 39%		None Detected ND
		Synthetic fibers 13%		

Lab ID: 18098630 **Client Sample #: CC2R6-2-03**

Location: CC2 Residence 6

Layer 1 of 2	Description: Tan linoleum with trace paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Calcareous particles, Linoleum/Binder, Insect parts	Cellulose 10%		None Detected ND
	Paint	Spider silk <1%		

Layer 2 of 2	Description: Brown/green fibrous backing with brown mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Binder/Filler, Mastic/Binder	Cellulose 32%		None Detected ND
		Synthetic fibers 12%		

Lab ID: 18098631 **Client Sample #: CC2R6-3-01**

Location: CC2 Residence 6

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	Description: Tan rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles, Rubber/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Synthetic fibers <1%		None Detected ND
		Cellulose <1%		

Lab ID: 18098632 Client Sample #: CC2R6-3-02

Location: CC2 Residence 6

Layer 1 of 2	Description: Tan rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles, Rubber/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Tan soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder	Cellulose <1%		None Detected ND

Lab ID: 18098633 Client Sample #: CC2R6-3-03

Location: CC2 Residence 6

Layer 1 of 2	Description: Tan rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Fine particles, Rubber/Binder	None Detected ND		None Detected ND
Layer 2 of 2	Description: Tan brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		Asbestos Type: %
	Mastic/Binder, Insect parts	Cellulose <1%		None Detected ND

Lab ID: 18098634 Client Sample #: CC2R6-4-01

Location: CC2 Residence 6

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	Description: Off-white compacted powdery material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles	None Detected ND	None Detected ND
Layer 2 of 3	Description: Off-white thin fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 23%	None Detected ND
Layer 3 of 3	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 20%	None Detected ND
			Glass fibers 2%	
			Spider silk <1%	

Lab ID: 18098635 **Client Sample #: CC2R6-4-02**

Location: CC2 Residence 6

Layer 1 of 3	Description: Cream compacted powdery material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles	None Detected ND	Chrysotile 2%
Layer 2 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 27%	None Detected ND
Layer 3 of 3	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 23%	None Detected ND
			Glass fibers 2%	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18098636 Client Sample #: CC2R6-4-03

Location: CC2 Residence 6

Layer 1 of 3	Description: Off-white compacted powdery material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % Chrysotile 3%
		Binder/Filler, Calcareous particles	Cellulose 30%	
Layer 2 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
		Binder/Filler	Cellulose 26%	
Layer 3 of 3	Description: Off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
		Binder/Filler, Gypsum/Binder, Mica	Cellulose 20%	
			Glass fibers 4%	

Lab ID: 18098637 Client Sample #: CC2R6-5-01

Location: CC2 Residence 6

Layer 1 of 2	Description: Off-white thin bumpy compacted powdery material with cream paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % Chrysotile 2%
		Binder/Filler, Calcareous particles, Paint	None Detected ND	
Layer 2 of 2	Description: Beige/tan fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % None Detected ND
		Binder/Filler	Cellulose 35%	

Lab ID: 18098638 Client Sample #: CC2R6-5-02

Location: CC2 Residence 6

Layer 1 of 3	Description: Off-white thin bumpy compacted powdery material with cream paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: % Chrysotile 2%
		Binder/Filler, Calcareous particles, Paint	None Detected ND	

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 30%	None Detected ND
Layer 3 of 3	Description: Trace thin off-white chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Gypsum/Binder	Cellulose 19%	None Detected ND

Lab ID: 18098639 **Client Sample #: CC2R6-5-03**

Location: CC2 Residence 6

Layer 1 of 1	Description: Off-white thin compacted powdery material with yellow paint and tan paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	Cellulose 30%	Chrysotile 2%

Lab ID: 18098640 **Client Sample #: CC2R6-5-04**

Location: CC2 Residence 6

Layer 1 of 1	Description: Off-white thin compacted powdery material with yellow paint and tan paper	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	Cellulose 27%	Chrysotile 2%

Lab ID: 18098641 **Client Sample #: CC2R6-5-05**

Location: CC2 Residence 6

Layer 1 of 3	Description: Off-white thin compacted powdery material with white paint	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler, Calcareous particles, Paint	None Detected ND	Chrysotile 2%
Layer 2 of 3	Description: Beige fibrous material	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
		Binder/Filler	Cellulose 26%	None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Reviewed by: Matt Macfarlane

Date: 10/04/2018

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 6

Batch #: 1819280.00

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 17

Samples Analyzed: 17

Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3

Description: Trace thin off-white chalky material with paper

Non-Fibrous Materials:

Other Fibrous Materials: %

Asbestos Type: %

Binder/Filler, Gypsum/Binder

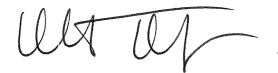
Cellulose 20%

None Detected ND

Sampled by: Client

Analyzed by: Alla Prysyazhnyuk

Date: 10/04/2018



Reviewed by: Matt Macfarlane

Date: 10/05/2018

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Company AECOM-Seattle
Address 1111 3rd Avenue Ste. 1600
 Seattle, WA 98101
Project Manager Ms. Nicole Gladu
Phone (206) 438-2700
Cell (206) 240-0644
NVL Batch Number 1819280.00
TAT 4 Days **AH** No
Rush TAT
Due Date 10/5/2018 **Time** 9:30 AM
Email nicole.gladu@aecom.com
Fax (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 6

Subcategory PLM Bulk

Item Code ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

Total Number of Samples 17

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098625	CC2R6-1-01		A
2	18098626	CC2R6-1-02		A
3	18098627	CC2R6-1-03		A
4	18098628	CC2R6-2-01		A
5	18098629	CC2R6-2-02		A
6	18098630	CC2R6-2-03		A
7	18098631	CC2R6-3-01		A
8	18098632	CC2R6-3-02		A
9	18098633	CC2R6-3-03		A
10	18098634	CC2R6-4-01		A
11	18098635	CC2R6-4-02		A
12	18098636	CC2R6-4-03		A
13	18098637	CC2R6-5-01		A
14	18098638	CC2R6-5-02		A
15	18098639	CC2R6-5-03		A
16	18098640	CC2R6-5-04		A
17	18098641	CC2R6-5-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	Alla Prysazhnyuk		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:54 PM

Entered By: Emily Schubert

1819280



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM CorporationProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240 - 0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206.438.2700Fax (866) 495 - 5288Project Name/Number 60537920 Task 2.4Project Location CC2 RESIDENCE

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu☐ Call ()☐ Fax ()☒ Emailshannon.mackay@aecom.comTotal Number of Samples 17

	Sample ID	Description	A/R
1	CC2R6-1-01		
2	" - 1-02		
3	" - 1-03		
4	" - 2-01		
5	" - 2-02		
6	" - 2-03		
7	" - 3-01		
8	" - 3-02		
9	" - 3-03		
10	" - 4-01		
11	" - 4-02		
12	" - 4-03		
13	" - 5-01		
14	" - 5-02		
15	" - 5-03		

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Timers</i>	<i>[Signature]</i>	NVL	10/1/18	930
Analyzed by					
Called by					
Faxed/Email by					

1819280



ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- ☐ 1 Hour ☐ 24 Hours ☐ 4 Days
☐ 2 Hours ☐ 2 Days ☐ 5 Days
☐ 4 Hours ☐ 3 Days ☐ 10 Days

Please call for TAT less than 24 Hours

Laboratory | Management | Training

Company AECOM CorporationProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240 - 0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206.438.2700Fax (866) 495 - 5288Project Name/Number 60537920 Task 2.4Project Location CC2 RESIDENCE 6

- ☐ PCM Air (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II Modified)
☒ PLM (EPA 600/R-93-116) ☐ EPA 400 Points (600/R-93-116) ☐ EPA 1000 Points (600/R-93-116)
☐ PLM Gravimetry (600/R-93-116) ☐ Asbestos in Vermiculite (EPA 600/R-04/004) ☐ Asbestos in Sediment (EPA 1900 Points)
☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116) ☐ Other _____

Reporting Instructions email Nicole Gladu☐ Call ()☐ Fax ()☒ Email shannon.mackay@aecom.comTotal Number of Samples 17

	Sample ID	Description	A/R
1	CC2R6-5-04		
2	" - 5-05		
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	David Simon, CAC	<i>David Simon</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30 am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>[Signature]</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 041834066

Customer ID: URSC50

Customer PO:

Project ID:

Attention: Shannon Mackay

AECOM

1501 4th Avenue

Suite 1400

Seattle, WA 98101

Project: 60537920 Task 2.4

Phone: (206) 674-1800

Fax: (206) 648-5705

Received: 11/14/2018 9:30 AM

Analysis Date: 11/27/2018

Collected: 09/11/2018

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CC2DD-2-01 041834066-0001	Headgate Concrete - Copco 2	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CC2PS-1-01 041834066-0002	Copco 2 - Penstock Thrust Block behind PH	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CC2WSP1-01 041834066-0003	Copco 2 - Concrete Supports - Woodstove Penstock	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Will DiBella (3)

Benjamin Ellis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAP unless otherwise specified. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Initial report from: 11/27/2018 22:21:52

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819236.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Above Ground Storage Tanks

Batch #: 1819236.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098391	CC2AST-Pb1-01	0.1914	52	< 52	<0.0052


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819236.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT** _____
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Above Ground Storage Tanks

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples _____

	Lab ID	Sample ID	Description	A/R
1	18098391	CC2AST-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 10/1/2018

Time: 12:48 PM

Entered By: Emily Schubert



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour

☐ 4 Hours

☐ 24 Hours

☐ 2 Days

☐ 3 Days

☒ 4 Days

☐ 5 Days

☐ 16-18 Days

Please call for

1819236

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 Above Ground Storage Tanks

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other

Reporting Instructions

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1 <u>CC2AST-Pb1-01</u>		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Shannon MacKay/David Simon</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/1/18 - 9/13/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/28/18</u>	<u>5pm</u>
				<u>10/01/18</u>	<u>9:15am</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>[Signature]</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/1/18</u>	<u>9:15</u>
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819266.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC2 CONTROL CENTER BUILDING

Batch #: 1819266.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/1/2018
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098538	CC2CCB-Pb1-01	0.2066	48	100	0.010


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819266.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 CONTROL CENTER BUILDING

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples _____

	Lab ID	Sample ID	Description	A/R
1	18098538	CC2CCB-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 10/1/2018

Time: 2:30 PM

Entered By: Shaina Mitchell



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour

☐ 4 Hours

☐ 24 Hours

☐ 2 Days

3 Days

☒ 4 Days

☐ 5 Days

Please call:

1819266

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 CONTROL CENTER BUILDING

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other

Reporting Instructions

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	CC2CCB-Pb1-01		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilio S	<i>[Signature]</i>	NVL	9/11/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 5, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819541.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Diversion Dam And Headgate

Batch #: 1819541.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/2/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18100045	CC2DD-Pb1-01	0.1952	51	3100	0.31


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/05/2018

Date Issued: 10/05/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819541.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/8/2018 **Time** 5:00 PM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Diversion Dam And Headgate

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples _____

	Lab ID	Sample ID	Description	A/R
1	18100045	CC2DD-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Shaina Mitchell		NVL	10/2/18	1700
Analyzed by	Yasuyuki Hida		NVL	10/5/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 10/3/2018

Time: 1:20 PM

Entered By: Emily Schubert

1819541



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 DIVERSION DAM AND HEADGATE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1 <u>CC2DD-Pb1-01</u>		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Shannon MacKay/David Simon</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>9/10/18-9/11/18</u>	<u>8am-4pm</u>
Relinquish by	<u>Shannon MacKay</u>	<u>[Signature]</u>	<u>AECOM</u>	<u>10/02/18</u>	<u>5pm</u>

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<u>S. Mitchell</u>	<u>[Signature]</u>	<u>NVL</u>	<u>10/12/18</u>	<u>1700</u>
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819262.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 EMERGENCY SPILL EQUIPMENT SHED

Batch #: 1819262.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098507	CC2ES-Pb1-01	0.1570	64	< 64	<0.0064


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819262.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 EMERGENCY SPILL EQUIPMENT SHED

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098507	CC2ES-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:27 PM

Entered By: Shaina Mitchell

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819251.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC2 Former Bunkhouse

Batch #: 1819251.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/1/2018
Samples Received: 3
Samples Analyzed: 3

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098464	CC2FBH-Pb1-01	0.1789	56	2700	0.27
18098465	CC2FBH-Pb2-01	0.1943	51	1800	0.18
18098466	CC2FBH-Pb3-01	0.1560	64	< 64	<0.0064


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819251.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:30 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former Bunkhouse

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098464	CC2FBH-Pb1-01		A
2	18098465	CC2FBH-Pb2-01		A
3	18098466	CC2FBH-Pb3-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 1:26 PM

Entered By: Shaista Khan

1819251



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM

Address 1111 3rd Avenue, Suite 1600

Seattle, WA 98101

Phone 206-438-2700

Project Manager Nicole Gladu

Cell (206) 240-0644

Email nicole.gladu@aecom.com

Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 FORMER BUNK HOUSE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 3

	Sample ID	Description	A/R
1	CC2FBH-Pb1-01		
2	" - Pb2-01		
3	" - Pb3-01		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18-9/13/18	8am-5pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilee S	<i>[Signature]</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819237.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC2 Former Cookhouse

Batch #: 1819237.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/1/2018
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098392	CC2FCH-Pb1-01	0.1035	97	990	0.099

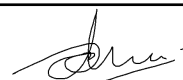
Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819237.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:30 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former Cookhouse

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098392	CC2FCH-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:50 PM

Entered By: Emily Schubert



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour☐ 2 Days☐ 5 Days

Please call

☐ 4 Hours

3 Days

☐ 24 Hours☒ 4 Days**1819237**

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 FORMER COOKHOUSE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other

Reporting Instructions

☐ Call☐ Fax☒ Emailshannon.mackay@aecom.comTotal Number of Samples 1

	Sample ID	Description	A/R
1	CC2 FCH-Pb1-D1		
2			
3			
4			
5			
6			
7			
8			
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10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>Shannon MacKay</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:30am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emilio</i>	<i>[Signature]</i>	NVL	10/1/18	9:30
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819219.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Former School

Batch #: 1819219.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098334	CC2FS-Pb1-01	0.1980	51	14000	1.4


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819219.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:30 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Former School

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098334	CC2FS-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Federal Express				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	930
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:04 PM

Entered By: Shaista Khan



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour

☐ 4 Hours

☐ 24 Hours

☐ 2 Days

3 Days

☒ 4 Days

☐ 5 Days

Please call for TA

1819219

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 FORMER SCHOOL

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	CC2FS-Pb1-01		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>David Simon</i>	AECOM	9/1/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18	5pm
				10/01/18	9:30am
Office Use Only					
Received by	Emily S	<i>Emily S</i>	NVL	10/1/18	930
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819267.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 FUEL SHED

Batch #: 1819267.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098539	CC2FSH-Pb1-01	0.1763	57	< 57	<0.0057

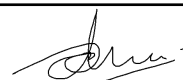
Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819267.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 FUEL SHED

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098539	CC2FSH-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:33 PM

Entered By: Shaina Mitchell

1819267



METALS CHAIN OF CUSTODY

Turn Around...

☐ 2 Hour☐ 4 Hours☐ 24 Hours☐ 2 Days☐ 3 Days☒ 4 Days☐ 5 Days☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOMProject Manager Nicole GladuAddress 1111 3rd Avenue, Suite 1600Cell (206) 240-0644Seattle, WA 98101Email nicole.gladu@aecom.comPhone 206-438-2700Fax (206) 495-5288Project Name/Number 60537920 Task 2.4 Project Location CC2 FUEL SHED☒ Total Metals☒ FAA (ppm)☐ Air Filter☒ Paint Chips (%)☐ Soil

RCRA 8

RCRA 11

☐ TCLP☐ ICP (PPM)☐ Paint Chips (cm)☐ Dust Wipes☐ Barium☐ Chromium☐ Silver☐ Copper☐ GFAA (ppb)☐ Drinking Water☐ Waste Water☐ Arsenic☐ Mercury☒ Lead☐ Zinc☐ CVAA (ppb)☐ Other☐ Selenium☐ Cadmium☐ Other

Reporting Instructions

☐ Call ()☐ Fax ()☒ Email shannon.mackay@aecom.comTotal Number of Samples 1

Sample ID	Description	A/R
1	CC2 FSH - Pb1-01	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>Shannon MacKay</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/20/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Emily S</i>	<i>[Signature]</i>	NVL	10/1/18	2:15
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600
Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819272.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Hazardous Waste Storage

Batch #: 1819272.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098571	CC2HWS-Pb1-01	0.1801	56	2500	0.25


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819272.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Hazardous Waste Storage

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098571	CC2HWS-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:41 PM

Entered By: Emily Schubert



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour

☐ 4 Hours

☐ 24 Hours

☐ 2 Days

3 Days

☒ 4 Days

☐ 5 Days

Please call for T

1819272

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location _____

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other _____			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other _____

Reporting Instructions _____

☐ Call (_____) _____

☐ Fax (_____) _____

☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	CC2HWS-PbI-01		
2			
3			
4			
5			
6			
7			
8			
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10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon		AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay		AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

Emily Schubert

From: MacKay, Shannon <shannon.mackay@aecom.com>
Sent: Monday, October 01, 2018 12:45 PM
To: Client Services
Subject: AECOM Samples - CC2HWS

The Project Location for the lead sample submitted this morning with the beginning identifier CC2HWS is "CC2 Hazardous Waste Storage"

Thanks!

Shannon MacKay
Sr. Environmental Scientist, Environmental Compliance
D 206-438-2232 C 206-999-2112
shannon.mackay@aecom.com

AECOM
1111 3rd Avenue, Suite 1600 Seattle, WA 98101
206-438-2700 Fax 866-438-2166
www.aecom.com

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819227.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle
Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu
Project Location: CC2 Maintenance Bldg.

Batch #: 1819227.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 60537920 Task 2.4
Date Received: 10/1/2018
Samples Received: 1
Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098330	CC2MB-Pb1-01	0.1956	51	< 51	<0.0051


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819227.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Maintenance Bldg.

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098330	CC2MB-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:25 PM

Entered By: Emily Schubert

1819227



METALS CHAIN OF CUSTODY

Turn Around Ti

☐ 2 Hour☐ 4 Hours☐ 24 Hours☐ 2 Days☐ 3 Days☒ 4 Days☐ 5 Days☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CCZ MAINTENANCE BLDG.

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call ()☐ Fax ()☒ Email shannon.mackay@aecom.comTotal Number of Samples 1

	Sample ID	Description	A/R
1	CCZMB-Pb1-01		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/20/18	5pm
Office Use Only					
Received by	Emery S	<i>[Signature]</i>	NVL	10/01/18	9:15am
Analyzed by				10/1/18	9:15
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819231.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Maintenance Storage Bldg.

Batch #: 1819231.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098340	CC2MSB-Pb1-01	0.1127	89	< 89	<0.0089


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819231.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Maintenance Storage Bldg.

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098340	CC2MSB-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:38 PM

Entered By: Emily Schubert



METALS CHAIN OF CUSTODY

Turn Around Time

☐ 2 Hour

☐ 4 Hours

☐ 24 Hours

☐ 2 Days

3 Days

☒ 4 Days

☐ 5 Days

Please call for

1819231

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 MAINTENANCE STORAGE BLDG.

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other

Reporting Instructions

☐ Call ()

☐ Fax ()

☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

Sample ID	Description	A/R
1	CC2MSB - Pb1-01	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>Shannon MacKay</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/25/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Shannon MacKay</i>	<i>Shannon MacKay</i>	NVL	10/11/18	9:15am
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819273.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

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Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 PENSTOCK

Batch #: 1819273.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 1

Samples Analyzed: 1

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098572	CC2P-Pb1-01	0.1890	53	< 53	<0.0053


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

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'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819273.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 PENSTOCK

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098572	CC2P-Pb1-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:43 PM

Entered By: Shaina Mitchell

1819273



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 PENSTOCK

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 1

	Sample ID	Description	A/R
1	CC2P-Pb1-01		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>Shannon MacKay</i>	AECOM	9/11/18 - 9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>Shannon MacKay</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Yasuyuki Hida	<i>Yasuyuki Hida</i>	NVL	10/1/18	9:15
Analyzed by				10/4/18	4:20
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819242.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

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Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Powerhouse

Batch #: 1819242.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 5

Samples Analyzed: 5

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098410	CC2PH-Pb1-01	0.1948	51	52	0.0052
18098411	CC2PH-Pb2-01	0.1725	58	510	0.051
18098412	CC2PH-Pb3-01	0.1652	61	130000	13
18098413	CC2PH-Pb4-01	0.0719	140	120000	12
18098414	CC2PH-Pb5-01	0.1854	54	1000	0.10


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819242.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Powerhouse

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 5

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098410	CC2PH-Pb1-01		A
2	18098411	CC2PH-Pb2-01		A
3	18098412	CC2PH-Pb3-01		A
4	18098413	CC2PH-Pb4-01		A
5	18098414	CC2PH-Pb5-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 1:02 PM

Entered By: Shaista Khan

1819242



METALS CHAIN OF CUSTODY

Turn Arou...

☐ 2 Hour☐ 4 Hours☐ 24 Hours☐ 2 Days☐ 3 Days☒ 4 Days☐ 5 Days☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM

Address 1111 3rd Avenue, Suite 1600

Seattle, WA 98101

Phone 206-438-2700

Project Manager Nicole Gladu

Cell (206) 240-0644

Email nicole.gladu@aecom.com

Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 POWERHOUSE

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 5

	Sample ID	Description	A/R
1	CC2PH-Pb1-01		
2	" - Pb2-01		
3	" - Pb3-01		
4	" - Pb4-01		
5	" - Pb5-01		
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/28/18	5pm
				10/01/18	9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilio S	<i>[Signature]</i>	NVL	10/11/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819276.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Residence 3

Batch #: 1819276.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 4

Samples Analyzed: 4

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098585	CC2R3-Pb1-01	0.1981	50	56000	5.6
18098586	CC2R3-Pb2-01	0.1976	51	120	0.012
18098587	CC2R3-Pb3-01	0.2048	49	76000	7.6
18098588	CC2R3-Pb4-01	0.2012	50	< 50	<0.0050


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819276.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 3

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 4

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098585	CC2R3-Pb1-01		A
2	18098586	CC2R3-Pb2-01		A
3	18098587	CC2R3-Pb3-01		A
4	18098588	CC2R3-Pb4-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 2:48 PM

Entered By: Emily Schubert

1819276



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
 Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
 Phone 206-438-2700

Project Manager Nicole Gladu
 Cell (206) 240-0644
 Email nicole.gladu@aecom.com
 Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 RESIDENCE 3

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Silver
						<input type="checkbox"/> Copper
						<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 4

Sample ID	Description	A/R
1 <u>CC2R3-Pb1-01</u>		
2 <u>u - Pb2-01</u>		
3 <u>u - Pb3-01</u>		
4 <u>u - Pb4-01</u>		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18 - 9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/25/18	5pm

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>[Signature]</i>	<i>[Signature]</i>	NVL	10/1/18	9:15am
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819229.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm), Percent (%) or mg/cm² by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft². TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m³. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested and are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Shalini Patel".

Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101

Attention: Ms. Nicole Gladu

Project Location: CC2 Residence 4

Batch #: 1819229.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 4

Samples Analyzed: 4

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098335	CC2R4-Pb1-01	0.1977	51	4500	0.45
18098336	CC2R4-Pb2-01	0.2049	49	330	0.033
18098337	CC2R4-Pb3-01	0.1859	54	< 54	<0.0054
18098338	CC2R4-Pb4-01	0.2065	48	700	0.070


Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** **1819229.00**
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 4

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 4

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098335	CC2R4-Pb1-01		A
2	18098336	CC2R4-Pb2-01		A
3	18098337	CC2R4-Pb3-01		A
4	18098338	CC2R4-Pb4-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:33 PM

Entered By: Emily Schubert

1819229



METALS CHAIN OF CUSTODY

Turn Around Time

- ☐ 2 Hour ☐ 4 Hours ☐ 24 Hours
☐ 2 Days ☐ 3 Days ☒ 4 Days
☐ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM

Address 1111 3rd Avenue, Suite 1600

Seattle, WA 98101

Phone 206-438-2700

Project Manager Nicole Gladu

Cell (206) 240-0644

Email nicole.gladu@aecom.com

Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 RESIDENCE 4

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium
					<input checked="" type="checkbox"/> Silver	<input type="checkbox"/> Copper
					<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
						<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 4

	Sample ID	Description	A/R
1	CC2R4-Pb1-01		
2	" - Pb2-01		
3	" - Pb3-01		
4	" - Pb4-01		
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18 - 9/13/18	8am - 4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/20/18	5pm
Office Use Only					
Received by	<i>[Signature]</i>	<i>[Signature]</i>	NVL	10/01/18	9:15am
Analyzed by					
Called by					
Faxed/Email by					

October 4, 2018

Nicole Gladu

AECOM-Seattle

1111 3rd Avenue Ste. 1600

Seattle, WA 98101



Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1819234.00

Dear Ms. Gladu,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846 -3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

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Sincerely,

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Shalini Patel, Lab Supervisor

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com



NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

Analysis Report

Total Lead (Pb)

Client: AECOM-Seattle

Address: 1111 3rd Avenue Ste. 1600
Seattle, WA 98101**Attention: Ms. Nicole Gladu**

Project Location: CC2 Residence 5

Batch #: 1819234.00

Matrix: Paint

Method: EPA 3051/7000B

Client Project #: 60537920 Task 2.4

Date Received: 10/1/2018

Samples Received: 3

Samples Analyzed: 3

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
18098372	CC2R5-Pb1-01	0.1836	54	1600	0.16
18098374	CC2R5-Pb2-01	0.1935	52	74	0.0074
18098376	CC2R5-Pb3-01	0.2060	49	180	0.018

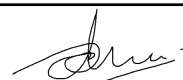
Sampled by: Client

Analyzed by: Yasuyuki Hida

Reviewed by: Shalini Patel

Date Analyzed: 10/04/2018

Date Issued: 10/04/2018


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Company AECOM-Seattle **NVL Batch Number** 1819234.00
Address 1111 3rd Avenue Ste. 1600 **TAT** 4 Days **AH** No
 Seattle, WA 98101 **Rush TAT**
Project Manager Ms. Nicole Gladu **Due Date** 10/5/2018 **Time** 9:15 AM
Phone (206) 438-2700 **Email** nicole.gladu@aecom.com
Cell (206) 240-0644 **Fax** (866) 495-5288

Project Name/Number: 60537920 Task 2.4 **Project Location:** CC2 Residence 5

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18098372	CC2R5-Pb1-01		A
2	18098374	CC2R5-Pb2-01		A
3	18098376	CC2R5-Pb3-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	10/1/18	915
Analyzed by	Yasuyuki Hida		NVL	10/4/18	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions:

Date: 10/1/2018

Time: 12:44 PM

Entered By: Emily Schubert



METALS CHAIN OF CUSTODY

1819234

Turn Around T

☐ 2 Hour☐ 4 Hours☐ 24 Hours☐ 2 Days☐ 3 Days☒ 4 Days☐ 5 Days☐ 6-10 Days

Please call for TAT less than 24 Hours

Company AECOM
Address 1111 3rd Avenue, Suite 1600
Seattle, WA 98101
Phone 206-438-2700

Project Manager Nicole Gladu
Cell (206) 240-0644
Email nicole.gladu@aecom.com
Fax (206) 495-5288

Project Name/Number 60537920 Task 2.4 Project Location CC2 RESIDENCE 5

<input checked="" type="checkbox"/> Total Metals	<input checked="" type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input checked="" type="checkbox"/> Paint Chips (%)	<input type="checkbox"/> Soil	RCRA 8	RCRA 11		
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (PPM)	<input type="checkbox"/> Paint Chips (cm)	Dust Wipes		<input type="checkbox"/> Barium	<input type="checkbox"/> Chromium	<input type="checkbox"/> Silver	<input type="checkbox"/> Copper
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water		<input type="checkbox"/> Arsenic	<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> Zinc
	<input type="checkbox"/> CVAA (ppb)	<input type="checkbox"/> Other			<input type="checkbox"/> Selenium	<input type="checkbox"/> Cadmium		<input type="checkbox"/> Other

Reporting Instructions

☐ Call () ☐ Fax () ☒ Email shannon.mackay@aecom.com

Total Number of Samples 3

Sample ID	Description	A/R
1	CC2R5-Pb1-01	
2	4 - Pb2-01	
3	11 - Pb3-01	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	Print Name	Signature	Company	Date	Time
Sampled by	Shannon MacKay/David Simon	<i>[Signature]</i>	AECOM	9/11/18-9/13/18	8am-4pm
Relinquish by	Shannon MacKay	<i>[Signature]</i>	AECOM	9/28/18 10/01/18	5pm 9:15am

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>[Signature]</i>	<i>[Signature]</i>	NVL	10/1/18	9:15
Analyzed by					
Called by					
Faxed/Email by					

APPENDIX D PERSONNEL AND LABORATORY CERTIFICATIONS

State of California Department of Public Health

Lead-Related
Construction
Certificate

Certificate
Type

Expiration
Date



Project Monitor

01/06/2019



David L. Simon

ID # 24204

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

David Leo Simon

Name

Certification No. 92-0005

Expires on 06/24/19



This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Certificate Of Completion

Asbestos Building Inspector Refresher Course

DOSH #:CA-015-06

Shannon MacKay

ABIR0115190004N18965

David Wallach

Principal Instructor

1/15/2019

Course Start Date

1/15/2019

Course End Date

Michael W. Horner

Michael W. Horner

Training Director

1/15/2019

Exam Date

1/15/2020

Expiration Date

This course satisfies the education requirements for Asbestos accreditation under the Toxic Substances Control Act, Title II. This course has been approved by the Department of Industrial Relations, Division of Occupational Safety and Health of the State of California

NATEC International, Inc.

National Association of Training and Environmental Consulting

1100 Technology Circle- Suite A, Anaheim, CA 92805 • www.natecintl.com • 800-969-3228



Important Industry Contacts

CAL-OSHA: Ph# (916) 574-2993
(916) 483-0572 Fax Notification
Web: www.dir.ca.gov or calosha.com

CDPH/CLPPB: Ph# (510) 620-5600
Web: www.cdph.ca.gov/programs/CLPPB

SCAQMD: Ph# (909) 396-3739
Fax# (909) 396-3342

BAAQMD: Ph# (415) 749-4762

NATEC International, Inc.

National Association of Training and Environmental Consulting

Anaheim, CA • Oakland, CA • Fresno, CA • Sacramento, CA

Asbestos • Lead • Mold • HAZWOPER

P.O. Box 25205 Anaheim, CA 92825-5205
(714) 678-2750, (800) 969-3228, Fax (714) 678-2757
www.natecintl.com

NATEC International, Inc.

National Association of Training and Environmental Consulting
*Note: Card is not suitable substitute for certificate and is not accepted by SCAQMD as proof of certification

This Card Acknowledges That
Shannon MacKay

Holds Training Certification For
Asbestos Building Inspector Refresher Course

Expiration: 01/15/2020

Training Date 1/15/2019
Certificate No. ABIR0115190004N18965

Michael W. Horner
Training Director

Certificate of Completion

This is to certify that
Shannon R. MacKay

has satisfactorily completed
4 hours of refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

167196
Certificate Number



Instructor



May 2, 2018
Date(s) of Training

Expires in 1 year.

Exam Score:
If appropriate:

ARGUS PACIFIC, INC / 1900 WEST NICKERSON ST, SUITE 315 / SEATTLE, WASHINGTON 98119 / 206.285.3373 / ARGUSPACIFIC.COM



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

NVL Laboratory

4708 Aurora Avenue North

Seattle, WA 98103

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2757**

Expiration Date: **9/30/2019**

Effective Date: **10/1/2018**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



**CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing**



NVL Laboratories, Inc.
PLM Dept.
4708 Aurora Avenue North
Seattle, WA 98103
Phone: (206) 547-0100

Certificate No. 2757
Expiration Date 9/30/2019

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010	001	Bulk Asbestos	EPA 600/M4-82-020
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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.
Seattle, WA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2018-10-01 through 2019-09-30

Effective Dates



A handwritten signature in blue ink, reading "Dana S. Laman".

For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: 101861

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE**
- ✓ **ENVIRONMENTAL LEAD**
- ✓ **ENVIRONMENTAL MICROBIOLOGY**
- ☐ **FOOD**
- ✓ **UNIQUE SCOPES**

Accreditation Expires: June 01, 2019

Accreditation Expires: June 01, 2019

Accreditation Expires: June 01, 2019

Accreditation Expires:

Accreditation Expires: June 01, 2019

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful ongoing compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

William Walsh, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 15: 03/30/2016

Date Issued: 05/31/2017



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 04/01/1997

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte <i>(for internal methods only)</i>
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	EPA 3051	
			NIOSH 7300 Modified	
	X-ray Diffraction (XRD)		NIOSH 7500	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500 Modified	
			NIOSH 0600 Modified	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 02/07/1997

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (for internal methods only)
Paint		EPA SW-846 3051	
		EPA SW-846 7000B	
Soil		EPA SW-846 3051	
		EPA SW-846 7000B	
Settled Dust by Wipe		EPA SW-846 3051	
		EPA SW-846 7000B	
Airborne Dust		EPA SW-846 3051	
		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 02/01/1997

EMLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Direct Examination	SOP 12.133	In-House: Analysis of Spore Trap
	Bulk - Direct Examination	SOP 12.133	In-House: Bulk Analysis
	Surface - Direct Examination	SOP 12.133	In-House: Surface Analysis

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**

Issue Date: 05/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Unique Scopes Laboratory Accreditation Program (Unique Scopes)

Initial Accreditation Date: 04/01/2013

Unique Scope Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Consumer Product Testing	Lead in Paint and Other Similar Surface Coatings	CPSC-CH-E1003-09.1	
	Total Lead in Metal Children's Products	CPSC-CH-E1001-08.2	
	Total Lead in Non-Metal Children's Products	CPSC-CH-E1002-08.1	

A complete listing of currently accredited Unique Scope laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE



ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

EMSL Analytical Inc.

200 Route 130 North
Cinnaminson, NJ 08077

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1877**

Expiration Date: **3/31/2017**

Effective Date: **4/1/2015**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



EMSL Analytical Inc.

200 Route 130 North
Cinnaminson, NJ 08077
Phone: (800) 220-3675

Certificate No. 1877
Expiration Date 3/31/2017

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate	EPA 300.0
102.030	007	Nitrite	EPA 300.0
102.030	008	Phosphate, Ortho	EPA 300.0
102.030	009	Sulfate	EPA 300.0
102.100	001	Alkalinity	SM2320B
102.130	001	Conductivity	SM2510B
102.140	001	Total Dissolved Solids	SM2540C
102.175	001	Chlorine, Free and Total	SM4500-Cl G
102.190	001	Cyanide, Total	SM4500-CN E
102.192	001	Cyanide, amenable	SM4500-CN G
102.262	001	Total Organic Carbon TOC	SM5310C
102.270	001	Surfactants	SM5540C
102.520	001	Calcium	EPA 200.7
102.520	002	Magnesium	EPA 200.7
102.520	003	Potassium	EPA 200.7
102.520	004	Silica	EPA 200.7
102.520	005	Sodium	EPA 200.7
102.520	006	Hardness (calculation)	EPA 200.7

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.030	001	Mercury	SM3112B
103.060	001	Aluminum	SM3120B
103.060	003	Barium	SM3120B
103.060	007	Chromium	SM3120B
103.060	009	Iron	SM3120B
103.060	011	Manganese	SM3120B
103.060	015	Silver	SM3120B
103.060	017	Zinc	SM3120B
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.150	009	Lead	EPA 200.9
103.160	001	Mercury	EPA 245.1
103.300	001	Asbestos	EPA 100.1
103.301	001	Asbestos	EPA 100.2

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.040	000	Volatile Organic Compounds	EPA 524.2
104.040	001	Benzene	EPA 524.2
104.040	007	n-Butylbenzene	EPA 524.2
104.040	008	sec-Butylbenzene	EPA 524.2
104.040	009	tert-Butylbenzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	015	2-Chlorotoluene	EPA 524.2
104.040	016	4-Chlorotoluene	EPA 524.2
104.040	019	1,3-Dichlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	022	Dichlorodifluoromethane	EPA 524.2
104.040	023	1,1-Dichloroethane	EPA 524.2
104.040	024	1,2-Dichloroethane	EPA 524.2
104.040	025	1,1-Dichloroethene	EPA 524.2
104.040	026	cis-1,2-Dichloroethene	EPA 524.2
104.040	027	trans-1,2-Dichloroethene	EPA 524.2
104.040	028	Dichloromethane	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	033	cis-1,3-Dichloropropene	EPA 524.2
104.040	034	trans-1,3-Dichloropropene	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2
104.040	037	Isopropylbenzene	EPA 524.2
104.040	039	Naphthalene	EPA 524.2
104.040	041	N-propylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2
104.040	045	Tetrachloroethene	EPA 524.2

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

104.040	046	Toluene	EPA 524.2
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2
104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethene	EPA 524.2
104.040	052	Trichlorofluoromethane	EPA 524.2
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	057	Xylenes, Total	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2
104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane	EPA 524.2
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	006	tert-Butyl Alcohol (TBA)	EPA 524.2
104.050	008	Carbon Disulfide	EPA 524.2
104.050	009	Methyl Isobutyl Ketone	EPA 524.2

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	008	Cobalt	EPA 200.8

As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.020	021	Iron	EPA 200.8
109.020	022	Tin	EPA 200.8
109.020	023	Titanium	EPA 200.8
109.025	010	Lead	EPA 200.9
109.190	001	Mercury	EPA 245.1
109.370	007	Gold	SM3111B
109.370	010	Lead	SM3111B
109.370	014	Palladium	SM3111B
109.370	015	Platinum	SM3111B
109.400	001	Mercury	SM3112B
109.430	001	Aluminum	SM3120B
109.430	002	Antimony	SM3120B
109.430	005	Beryllium	SM3120B
109.430	007	Cadmium	SM3120B
109.430	009	Chromium	SM3120B
109.430	010	Cobalt	SM3120B
109.430	011	Copper	SM3120B
109.430	012	Iron	SM3120B
109.430	013	Lead	SM3120B
109.430	015	Manganese	SM3120B
109.430	016	Molybdenum	SM3120B
109.430	017	Nickel	SM3120B
109.430	019	Selenium	SM3120B
109.430	021	Silver	SM3120B
109.430	024	Vanadium	SM3120B
109.430	025	Zinc	SM3120B
109.811	001	Chromium (VI)	SM3500-Cr D (18th/19th)

Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste

114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B

114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.103	001	Chromium (VI)	EPA 7196A
114.130	001	Lead	EPA 7420
114.131	001	Lead	EPA 7421
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A

Field of Testing: 115 - Extraction Test of Hazardous Waste

115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter 11, Article 5, Appendix II

Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste

116.010	000	EDB and DBCP	EPA 8011
116.020	030	Nonhalogenated Volatiles	EPA 8015B
116.020	031	Ethanol and Methanol	EPA 8015B
116.030	001	Gasoline-range Organics	EPA 8015B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.080	120	Oxygenates	EPA 8260B

Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
117.110	000	Extractable Organics	EPA 8270C
117.210	000	Pesticides & PCBs	EPA 8081A
117.220	000	PCBs	EPA 8082
117.250	000	Chlorinated Herbicides	EPA 8151A

Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010	001	Bulk Asbestos	EPA 600/M4-82-020
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As of 9/16/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

Field of Testing: 129 - Cryptosporidium & Giardia

129.020	001	Cryptosporidium and Giardia	EPA 1623
129.030	001	Cryptosporidium and Giardia	EPA 1623.1



OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: WA100009

EPA CODE: WA01224

Certificate: WA100009 - 012



Fremont Analytical, Inc.

3600 Fremont Ave. N

Seattle, WA 98103

Issue Date: 5/10/2018 Expiration Date: 5/9/2019

As of 5/10/2018 this list supersedes all previous lists for this certificate number.

Solids

EPA 8270D

5562 Azobenzene
5595 Benzidine
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene
9309 Benzo(j)fluoranthene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5610 Benzoic acid
5630 Benzyl alcohol
5760 bis(2-Chloroethoxy)methane
5765 bis(2-Chloroethyl) ether
5780 bis(2-Chloroisopropyl) ether
6062 bis(2-Ethylhexyl)adipate
5670 Butyl benzyl phthalate
5680 Carbazole
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
9354 Dibenz(a, h) acridine
5900 Dibenz(a, j) acridine
5895 Dibenz(a,h) anthracene
9348 Dibenzo(a, h) pyrene
5890 Dibenzo(a,e) pyrene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6205 Diphenylamine
6265 Fluoranthene
6270 Fluorene
6275 Hexachlorobenzene
4835 Hexachlorobutadiene
6285 Hexachlorocyclopentadiene
4840 Hexachloroethane
6315 Indeno(1,2,3-cd) pyrene
6320 Isophorone
5005 Naphthalene
5015 Nitrobenzene
6525 n-Nitrosodiethylamine
6530 n-Nitrosodimethylamine
6545 n-Nitrosodi-n-propylamine
6535 n-Nitrosodiphenylamine



OREGON

Environmental Laboratory Accreditation Program

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Solids

EPA 8270D

6605 Pentachlorophenol
6608 Perylene
6615 Phenanthrene
6625 Phenol
6665 Pyrene
5095 Pyridine

EPA 8270D
SIM

10242509

Semivolatile Organic compounds by
GC/MS Selective Ion Monitoring

6380 1-Methylnaphthalene
6385 2-Methylnaphthalene
5500 Acenaphthene
5505 Acenaphthylene
5555 Anthracene
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5670 Butyl benzyl phthalate
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
5895 Dibenz(a,h) anthracene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6265 Fluoranthene
6270 Fluorene
6315 Indeno(1,2,3-cd) pyrene
5005 Naphthalene
6605 Pentachlorophenol
6615 Phenanthrene
6665 Pyrene

EPA 8270E

988

Semivolatile Organic compounds by
Gas Chromatography/Mass
Spectrometry (GC/MS)

5155 1,2,4-Trichlorobenzene

EPA 8270E

10242543

Semivolatile Organic compounds by
GC/MS

5155 1,2,4-Trichlorobenzene
4610 1,2-Dichlorobenzene
6155 1,2-Dinitrobenzene
4615 1,3-Dichlorobenzene



OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: WA100009

EPA CODE: WA01224

Certificate: WA100009 - 012



Fremont Analytical, Inc.

3600 Fremont Ave. N

Seattle, WA 98103

Issue Date: 5/10/2018 Expiration Date: 5/9/2019

As of 5/10/2018 this list supersedes all previous lists for this certificate number.

Solids

EPA 8270E

6160 1,3-Dinitrobenzene (1,3-DNB)
4620 1,4-Dichlorobenzene
6165 1,4-Dinitrobenzene
6380 1-Methylnaphthalene
4659 2,2-Oxybis(1-chloropropane)
6735 2,3,4,6-Tetrachlorophenol
6740 2,3,5,6-Tetrachlorophenol
6835 2,4,5-Trichlorophenol
6840 2,4,6-Trichlorophenol
6000 2,4-Dichlorophenol
6130 2,4-Dimethylphenol
6175 2,4-Dinitrophenol
6185 2,4-Dinitrotoluene (2,4-DNT)
6190 2,6-Dinitrotoluene (2,6-DNT)
5795 2-Chloronaphthalene
5800 2-Chlorophenol
6360 2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
5145 2-Methylaniline (o-Toluidine)
6385 2-Methylnaphthalene
6400 2-Methylphenol (o-Cresol)
6460 2-Nitroaniline
6490 2-Nitrophenol
6412 3 & 4 Methylphenol
5945 3,3'-Dichlorobenzidine
6355 3-Methylcholanthrene
6465 3-Nitroaniline
5660 4-Bromophenyl phenyl ether (BDE-3)
5700 4-Chloro-3-methylphenol
5745 4-Chloroaniline
5825 4-Chlorophenyl phenylether
6470 4-Nitroaniline
6500 4-Nitrophenol
5500 Acenaphthene
5505 Acenaphthylene
5510 Acetophenone
5545 Aniline
5555 Anthracene
5562 Azobenzene
5570 Benzaldehyde
5595 Benzidine
5575 Benzo(a)anthracene
5580 Benzo(a)pyrene
5590 Benzo(g,h,i)perylene



OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: WA100009

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3600 Fremont Ave. N

Seattle, WA 98103

Issue Date: 5/10/2018 Expiration Date: 5/9/2019

As of 5/10/2018 this list supersedes all previous lists for this certificate number.

Solids

EPA 8270E

9309 Benzo(j)fluoranthene
5600 Benzo(k)fluoranthene
5585 Benzo[b]fluoranthene
5610 Benzoic acid
5630 Benzyl alcohol
5635 Benzyl chloride
5760 bis(2-Chloroethoxy)methane
5765 bis(2-Chloroethyl) ether
5780 bis(2-Chloroisopropyl) ether
6062 bis(2-Ethylhexyl)adipate
5670 Butyl benzyl phthalate
5680 Carbazole
5855 Chrysene
6065 Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
9354 Dibenz(a, h) acridine
5900 Dibenz(a, j) acridine
5895 Dibenz(a,h) anthracene
9348 Dibenzo(a, h) pyrene
9351 Dibenzo(a, i) pyrene
5890 Dibenzo(a,e) pyrene
5905 Dibenzofuran
6070 Diethyl phthalate
6135 Dimethyl phthalate
5925 Di-n-butyl phthalate
6200 Di-n-octyl phthalate
6205 Diphenylamine
6265 Fluoranthene
6270 Fluorene
6275 Hexachlorobenzene
4835 Hexachlorobutadiene
6285 Hexachlorocyclopentadiene
4840 Hexachloroethane
6315 Indeno(1,2,3-cd) pyrene
5005 Naphthalene
5015 Nitrobenzene
6530 n-Nitrosodimethylamine
6545 n-Nitrosodi-n-propylamine
6535 n-Nitrosodiphenylamine
6605 Pentachlorophenol
6608 Perylene
6615 Phenanthrene
6625 Phenol
7985 Phorate



OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: WA100009

EPA CODE: WA01224

Certificate: WA100009 - 012



Fremont Analytical, Inc.

3600 Fremont Ave. N

Seattle, WA 98103

Issue Date: 5/10/2018 Expiration Date: 5/9/2019

As of 5/10/2018 this list supersedes all previous lists for this certificate number.

Solids	EPA 8270E	6665	Pyrene	
		5095	Pyridine	
	EPA 8270E SIM		989	Semivolatile Organic compounds by Gas Chromatography/Mass Spectrometry (GC/MS) SIM Mode
		6380	1-Methylnaphthalene	
		5795	2-Chloronaphthalene	
		6385	2-Methylnaphthalene	
		5500	Acenaphthene	
		5505	Acenaphthylene	
		5555	Anthracene	
		5575	Benzo(a)anthracene	
		5580	Benzo(a)pyrene	
		5590	Benzo(g,h,i)perylene	
		5600	Benzo(k)fluoranthene	
		5585	Benzo[b]fluoranthene	
		5670	Butyl benzyl phthalate	
		5680	Carbazole	
		5855	Chrysene	
		6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	
		5895	Dibenz(a,h) anthracene	
		5905	Dibenzofuran	
		6070	Diethyl phthalate	
		6135	Dimethyl phthalate	
		5925	Di-n-butyl phthalate	
		6200	Di-n-octyl phthalate	
		6265	Fluoranthene	
		6270	Fluorene	
		6315	Indeno(1,2,3-cd) pyrene	
		5005	Naphthalene	
		6605	Pentachlorophenol	
		6615	Phenanthrene	
		6665	Pyrene	
	NWTPH-Dx		90018409	Oregon DEQ TPH Diesel Range
		9369	Diesel range organics (DRO)	
		9499	Motor Oil	
		2050	Total Petroleum Hydrocarbons (TPH)	
	NWTPH-Gx		90018603	Oregon DEQ TPH Gasoline Range Organics by GC/FID-PID Purge & Trap
		9408	Gasoline range organics (GRO)	

Appendix D

Iron Gate Development - Hazardous Materials Survey Report



**ENTEK
CONSULTING GROUP, INC.**

4200 Rocklin Road, Suite 7, Rocklin, CA 95677 Phone (916) 632-6800 Fax (916) 632-6812 www.entekgroup.com

**HAZARDOUS MATERIALS SURVEY
FINAL REPORT**

CLIENT

**NV5
48 Bellarmine Court, Ste. 40
Chico, CA 95928**

CONTACT

**Heidi Cummings, PG, QSD
Senior Geologist**

SURVEY ADDRESS

Iron Gate Development

BUILDINGS SURVEYED

**Multiple Structures at Iron Gate Development
Klamath River Renewal Project**

PREPARED BY

**Andy Roed
CAC #16-5695 & CDPH I/A 2989
Entek Consulting Group, Inc.
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Entek Project #20-5562

October 22, 2020

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Executive Summary

Entek Consulting Group, Inc. (Entek) was contracted to conduct a supplementary investigation for hazardous materials specific to areas at the Iron Gate Development as designated by NV5 and Kiewit Infrastructure West Co. (Kiewit) as part of the Klamath River Renewal Project. Based on documentation provided to Entek, AECOM Technical Services, Inc. (AECOM) conducted a hazardous materials survey in September of 2018. Entek utilized AECOM's survey and the sample results to minimize the number of samples and time required to complete the survey. This report combines AECOM's final report as well as Entek's supplemental sampling into one report. AECOM's report is also attached to this report for your records. The investigation included an assessment of the following:

- Asbestos Materials
- Lead in Paint, Coatings, Ceramic Products and other Construction Components
- Fluorescent Light Tubes
- Light Ballasts
- Polychlorinated Biphenyls (PCB)
- Mercury Containing Thermostats and Switches
- Smoke Detectors with Radioactive Americium 241
- Exit Signs with Radioactive Gas Tritium
- Freon

Entek did not specifically inspect for mercury containing fluorescent light tubes or light ballast which may contain polychlorinated biphenyls (PCBs), thermostats which may contain mercury switches, equipment or systems which may contain Freon or other fluorocarbons, or smoke detectors which may contain a radioactive element. However, information pertaining to these materials is included in this report for your use and reference, since these light systems are present on the project.

The purpose of the inspection was to comply with the US EPA NESHAP requirements and the California Air Resource Board which has jurisdiction for this project site to determine if asbestos containing materials are present which may be impacted during an upcoming demolition project.

The United States Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (US EPA NESHAP), 40 CFR Part 61 - Nov. 20, 1990, requires an owner or operator of a demolition or renovation project to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos-containing materials (ACM) prior to the commencement of that project.

This inspection was requested by Ms. Heidi Cummings, Senior Geologist with NV5. The attached drawings show approximate sample locations. Materials are classified in the tables of this report as Regulated Asbestos Containing Material (RACM), Category I (CAT-I) or Category II (CAT-II) ACM, or Asbestos Containing Construction Material (ACCM). The report must be read in its entirety prior to making any interpretations, or conclusions pertaining to the information. Any conclusions made by the reader about the information provided in the body of this report which are contradictory or not included in

this report are the responsibility of the reader.

Introduction

This report presents results of a supplemental asbestos and lead survey performed by Entek which included the interior and exterior of select structures as outlined in the building descriptions below. These buildings are located at the Iron Gate Development. Fluorescent lights were observed at this project site; therefore, this report also includes references to regulations pertaining to handling practices and waste disposal of PCB light ballasts and mercury containing light tubes and thermostats which may be impacted during this project.

The inspection was conducted by Mr. Andy Roed and Mr. Richard Perrelli on September 14 and 15, 2020. Mr. Roed and Mr. Perrelli are Cal/OSHA Certified Asbestos Consultants (CAC) and State of California Department of Public Health (CDPH) certified Lead Inspector/Assessors.

This report was prepared for Ms. Heidi Cummings, Senior Geologist with NV5.

Building Description

The following structures were not accessible by Entek and/or AECOM during either survey. The company in parenthesis was unable to access the structure due to safety or instructed to not enter structure by the building owner.

- Residence 1 (Entek / AECOM)
- Residence 2 (Entek / AECOM)
- Maintenance Shed (Entek)
- Switchyard (Entek)

Aerator (IGDAE)

The Aerator piping is approximately 4' to 6' in diameter and provides aeration for the Iron Gate Development Fish Hatchery water supply. The Aerator structure is located south of the Iron Gate Development Powerhouse. The piping extends approximately 50 feet up a hillside. A metal caged ladder follows the piping up the hill. The piping is wrapped with deteriorating asphaltic pipe wrap.

Communications Building (IGDCB)

The Communications Building is adjacent and to the north of the Powerhouse, is approximately 800 square feet, and is a single story slab on grade prefabricated building. The exterior siding and roof consists of prefabricated steel. The interior of the building consists of a front office, an electrical room, and a break room. Walls and ceilings consist of gypsum wallboard or are unfinished steel. Flooring consists of vinyl floor sheeting or unfinished concrete.

Diversion Tunnel Intake Structure (IGDDTI)

The Diversion Tunnel Intake Structure is located on pilings that extend into the Iron Gate Reservoir. The building is located on the northeast end of the reservoir and is approximately 390 square feet. The exterior siding and roofing consist of steel with a

rubber membrane cover throughout. The interior consists of unfinished steel walls and ceiling and the floor consists of metal grating.

Emergency Spill Equipment Shed (IGDES)

The Emergency Spill Equipment Shed is approximately 100 square feet, and is a single story slab on grade shed, with engineered wood siding and asphaltic shingle roofing. The interior of the shed is unfinished wood. The structure is currently being used as storage for emergency spill purposes. Entek was not able to access the interior of the structure; however, based on conversation with our site escort, the interior is limited to unfished wood framing and plywood flooring.

Fish Holding Facilities and Ponds (IGDFHF)

The Fish Holding Facilities and Ponds main building is approximately 1,250 square feet and is a prefabricated concrete floor building located between the Powerhouse and the dam. The main building is in the center of six concrete lined fish holding ponds. The exterior siding and roofing of the building consists of prefabricated steel. The interior consists of a ground floor, and a second floor that wraps around the perimeter of the interior. Interior finishes are painted or unfinished steel and concrete.

Fish Ladder (IGDFL)

The Fish Ladder is located east of the Powerhouse. It consists of concrete steps that extend to the Fish Holding Facilities and Ponds from the river.

Iron Gate Dam (IGD)

The Iron Gate Dam is a zoned earth fill embankment with a height of 189 feet from the rock foundation to the dam crest. The dam crest is 20 feet wide and approximately 740 feet long. The embankment includes a central impervious clay core, with filter zones and a downstream drain.

Maintenance Shed (IGDMS)

The Maintenance Shed is approximately 2,000 square feet, wood framed, and is constructed on a slab-on-grade concrete foundation. It is located on the north side of the Klamath River approximately 1,000 feet south of the dam. It is an open sided structure and is used for the storage of boats, recreational trailer and other items from the nearby residences. Entek was not able to access this structure.

Penstock Intake Structure (IGDPIS)

The Penstock Intake Structure is located on pilings that extend into the Iron Gate Reservoir. The building is located on the southeast end of the reservoir and is approximately 120 square feet. The exterior siding and roofing consist of prefabricated steel throughout. The interior consists of unfinished steel walls and ceiling and the floor consists of metal grating.

Penstock and Hatchery Water Supply (IGDPS)

The Penstocks and Hatchery Water Supply are connected with the Aerator piping. The Penstocks are north of the Powerhouse and extend up the Iron Gate Development. The hatchery water supply extends past the Powerhouse and turns towards the Fish Holding Facilities.

Powerhouse (IGDPH)

The Powerhouse is approximately 3,000 square feet. The facility is located at the downstream toe of the dam on the east bank of the river. The powerhouse has three levels; above ground, first lower level, and second lower level. The above ground level contains the upper portions of a single vertical-shaft, Francis-type turbine contained in its own concrete vault. The first lower level contains the middle portion of the turbine housed in a concrete vault, electrical panels, a 500 gallon oil governor accumulation tank, air compressors, oil, water and air piping, labeled hazardous materials and other miscellaneous storage cabinets. The second lower level contains the lowest portion of the turbine housed in steel vault, piping, and sump pumps.

Residence 1 (IGDR1)

Residence 1 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the survey and the interior was not accessed.

Residence 2 (IGDR2)

Residence 2 is approximately 2,000 square feet. The exterior of the building consists of engineered wood siding and corrugated metal roofing. No suspect asbestos-containing materials were observed on the exterior of the building. The building was occupied during the survey and the interior was not accessed.

Restrooms (IGDRR)

The Restrooms building is approximately 400 square feet. The exterior siding and roof of the building consist of prefabricated steel. The interior of the building has two restrooms, a storage room, and consists of unfinished steel and concrete.

Switchyard

The Switchyard is approximately 5,000 square feet and is located adjacent to the powerhouse. The switchyard contains an electrical transformer, substations, transmission poles and lines within a fenced gravel area. The majority of the transmission pole footings, substations and the transformer were on top of cement pads or gravel filled cement catch basins. The "yellow glass portion" of the high voltage transformer bushings may contain PCBs in the oil. The small pole mounted transformers were noted to contain no-PCB labels. No observable impacts, odors or distressed vegetation were noted. Entek did not enter the switchyard area due to safety concerns.

Asbestos Inspection and Sample Collection Protocols

Entek included all specific designated interior and exterior areas of the buildings included in this report. Entek did not use any demolition methods to look within enclosed wall or ceiling cavities during this investigation. Entek did include all suspect materials observed in, on, or associated with the areas included in this report.

Entek reviewed the report prepared by AECOM prior to and during the site inspection. Materials sampled by AECOM were not resampled as part of this assessment. Only new material or materials which were assumed to contain asbestos by AECOM were sampled where possible.

Bulk samples were collected of various materials suspected to contain asbestos by utilizing a power drill and coring tube, cutting the materials with a razor knife, or use of other appropriate hand tools.

Surfacing materials were collected in a statistically random manner representative of the associated homogenous area as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987 and the California Air Resource Board (CARB).

Miscellaneous materials were collected from each homogenous area in a manner sufficient to determine whether the material is or is not ACM as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987.

Approximate locations of all samples collected during this inspection are indicated on the "Bulk Asbestos Material Analysis Request Form for Entek", which served as the chain of custody for the samples, and on the building diagram(s) attached to this report.

Asbestos Bulk Sample Results

There were several materials observed which are considered "suspect" under US EPA guidelines. Under current US EPA guidelines for conducting building inspections for ACM, all "suspect" materials must be assumed to contain asbestos until otherwise determined by laboratory testing.

The samples of materials suspected of containing asbestos were submitted to Asbestech, a laboratory located in Carmichael, California. These samples were subsequently analyzed by polarized light microscopy (PLM) with dispersion staining.

The US EPA NESHAP uses the terms Regulated Asbestos Containing Material (RACM), Category I, and Category II when identifying materials which contain asbestos in amounts greater than 1%. Cal/OSHA uses the term ACCM which indicates a manufactured construction material contains greater than 0.1% asbestos by weight by the PLM method. This definition can be found in Title 8, 1529.

Copies of Asbestech's laboratory reports and accreditations are attached.

Bulk samples were collected of all the materials considered to be "suspect", which had not been previously sampled, and were observed during this investigation. Some of those samples contained multiple layers which were individually analyzed to determine their asbestos content. Analysis of all samples collected was by PLM with dispersion staining. Results of the analysis for materials found to contain asbestos by both AECOM and Entek compiled in the table on the following pages

For all materials tested and found not to contain asbestos by Entek, refer to all laboratory results that are attached. In addition, the report by AECOM provides a list of materials with laboratory results of materials they collected, which include materials found to be positive and negative for asbestos.

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Aerator (IGDAE)					
N/A	Red Gaskets	Aerator Piping, Hatchery Water Supply	Cat. I	Assumed To Contain Asbestos	2 Each
Diversion Tunnel Intake Structure (IGDDTI)					
IGDDTI-1	Gray Window Putty	Interior Window Panes	Cat. II	5-6% Chrysotile	2 Each (4'x5')
Fish Holding Facility (IGDFHF)					
IGDFHF-01	Gray Brittle Window Putty	Patch Sealant On One Window Only	Cat. II	4-6% Chrysotile	4 linear feet
IGDFHF-03A-B	Silver Paint over Black Asphaltic Coating	Coating on Metal Gutter Along Fish Ladder near Gantry Gate	Cat. II Cat. I	1-5% Chrysotile (Silver Paint) 20-30% Chrysotile (Asphaltic Coating)	60 Square Feet
Maintenance Shed (IGDMS)					
N/A	Silver Woven Electrical Wire Insulation	Throughout Maintenance Shed	Cat. II	Assumed To Contain Asbestos	Unable to quantify
N/A	Electrical Panel Backing of older Electrical Panels	Interior Maintenance Shed	Cat. II	Assumed To Contain Asbestos	4 Each

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Maintenance Shed (IGDMS) (continued)					
N/A	Roof Felt Paper	Thought roof of Maintenance Shed (AECOM – Too High to Access) (Entek – No access to Structure Allowed)	Cat. I	Assumed To Contain Asbestos	2,100 Square Feet
Penstock (IGDPS)					
N/A	Red Gaskets	Hatchery Water Supply Piping (AECOM/Entek – Unable to sample due to active system)	Cat. I	Assumed To Contain Asbestos	Unable to Quantify
N/A	Black Gaskets	Hatchery Water Supply Piping (AECOM/Entek – Unable to sample due to active system)	Cat. I	Assumed To Contain Asbestos	Unable to Quantify
Penstock Intake Structure (IGDPIS)					
IGDPIS-01	White Brittle Window Putty	Interior Window Panes	Cat. II	4-5% Chrysotile	2 Each (4'x5')
Powerhouse (IGDPH)					
IGDPH-01	Gray Brittle Window Putty	Interior and Exterior Window Frames	Cat. II	4-5% Chrysotile	4 Each (4'x4')
N/A	Wicket Gates Seal	Associated with Turbines of Main Level of Powerhouse (No Access without Turbine Removal)	Cat. II	Assumed To Contain Asbestos	3 Each
N/A	Metal Clad Fire Door Insulation	Powerhouse Main Level Doors	RACM	Assumed To Contain Asbestos	2 Each

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Throughout Iron Gate Development					
N/A	Transite Piping	Assumed to be present underground throughout the Iron Gate Development	Cat. II	Assumed To Contain Asbestos	Unable to Quantify
Residence 1 <i>(AECOM and ENTEK did not Assess this Structure – Materials and Quantities Estimated for Bidding Purposes at Client's Request)</i> <i>(These materials and additional materials may or may not be present. An asbestos survey is necessary prior to the demolition of this structure)</i>					
N/A	Roofing Felt Paper	Under Metal Roof Throughout	Cat. I	Assumed To Contain Asbestos	2,000 Square Feet
N/A	Siding Felt Paper	Under Composite Siding	Cat. II	Assumed To Contain Asbestos	2,500 Square Feet
N/A	Drywall and Joint Compound	Throughout Interior of the Structure	Cat. II	Assumed To Contain Asbestos	6,000 Square Feet
N/A	Drywall Texture	Throughout Interior of the Structure	RACM	Assumed To Contain Asbestos	6,000 Square Feet
N/A	Vinyl Sheet Flooring and Mastic	Throughout Interior of the Structure	Cat. I/II	Assumed To Contain Asbestos	2,000 Square Feet
Residence 2 <i>(AECOM and ENTEK did not Assess this Structure – Materials and Quantities Estimated for Bidding Purposes at Client's Request)</i> <i>(These materials and additional materials may or may not be present. An asbestos survey is necessary prior to the demolition of this structure)</i>					
N/A	Roofing Felt Paper	Under Metal Roof Throughout	Cat. I	Assumed To Contain Asbestos	2,000 Square Feet
N/A	Siding Felt Paper	Under Composite Siding	Cat. II	Assumed To Contain Asbestos	2,500 Square Feet

Suspect Materials Found or Assumed TO Contain >1% Asbestos					
Sample ID#'s	Suspect Material	Location	NESHAP Category	Asbestos Content/Type (%) by PLM	Total Estimated Quantity
Residence 2 (continued)					
N/A	Drywall and Joint Compound	Throughout Interior of the Structure	Cat. II	Assumed To Contain Asbestos	6,000 Square Feet
N/A	Drywall Texture	Throughout Interior of the Structure	RACM	Assumed To Contain Asbestos	6,000 Square Feet
N/A	Vinyl Sheet Flooring and Mastic	Throughout Interior of the Structure	Cat. I/II	Assumed To Contain Asbestos	2,000 Square Feet

NOTE: Any CAT-I or CAT-II materials identified in the previous tables which will be subjected to mechanical removal, must be considered RACM for the purposes of notification to US EPA Region IX, CARB, or Local AQMD and classification of waste. Removal of any CAT-I or CAT-II materials prior to demolition of a building is dependent upon how the materials will be impacted and if the impact will cause the materials to become friable. If any remaining CAT-I or CAT-II materials will become friable they must be removed prior to the initiation of demolition.

NOTE: Cal/OSHA regulates all materials containing greater than 0.1% asbestos. As a result, impact to materials identified as ACCM and ACM must be performed by properly asbestos trained personnel utilizing appropriate personal protection, work practices, as well as, properly constructed and demarcated work areas or containments, in accordance with Cal/OSHA asbestos regulations.

The tables above provide an estimate of the amount of materials in square feet or linear feet. Contractors are responsible for quantifying the exact quantity of materials impacted by the renovation or demolition and shall not rely on the quantities in the above tables.

US EPA AHERA uses three terms when determining the classification of a material for the purpose of sampling. These terms include miscellaneous, surfacing, and thermal system insulation (TSI).

Miscellaneous materials are building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, and do not include surfacing material or TSI.

Surfacing materials are materials that are sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceiling and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

TSI is material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain, water condensation, or for other purposes.

The information provided in the tables of this report are for use by the Owner in determining where asbestos containing materials are located, and whether or not any future work may impact those materials. The information is also provided for use by any contractor who may perform work in areas impacting the materials listed in this report, and for use as appropriate by asbestos abatement contractors to provide costs related to work impacting ACM.

Any building materials which are considered “suspect” for containing asbestos which have not been identified in this report must be assumed to contain asbestos in amounts >1% until properly investigated and/or tested.

Materials commonly excluded from being suspected for containing asbestos include, but are not limited to: unwrapped pink and yellow fiberglass insulating materials or products, foam insulation, wood, metal, plastic, or glass. All other types of building materials or coatings on the materials listed above are commonly listed as “suspect” and must be tested prior to impact by a Contractor. Work impacting these untested or newly discovered materials must cease until an investigation can be completed.

Asbestos Regulatory Requirements

US EPA

The property included in this survey report is located in Siskiyou County. The California Air Resource Board (CARB) has been given authority for enforcement of the NESHAP regulations.

A demolition is the wrecking, taking out, or burning of any load supporting structural member. A renovation is everything else. 10 day written notification to the US EPA Region IX, CARB or local AQMD is required prior to the performance of any demolition project regardless of asbestos being present or not. This notification would also apply to any renovation project which involves the wrecking, taking out, or burning of any load bearing

structural member during a renovation as well.

There is a sufficient amount of ACM present to require a 10 day notification to the US EPA Region IX, CARB or local AQMD be submitted prior to starting work which will impact materials identified as RACM or CAT-I and CAT-II materials if they are made friable. If more than 160 square feet, 260 linear feet or 35 cubic feet of RACM is planned for removal on the project, formal written notification to US EPA Region IX, CARB or local AQMD is required.

Cal/OSHA

Disturbance of any ACM or ACCM could generate airborne asbestos fibers and would be regulated by Cal/OSHA. Cal/OSHA worker health and safety regulations apply during any disturbance of ACM or ACCM by a person while in the employ of another. This is true regardless of friability or quantity disturbed. Since it has been estimated more than 100 square feet of ACCM does exist and will be impacted during the upcoming project, a licensed asbestos contractor, certified by the State of California, and registered with Cal/OSHA is required to perform the asbestos related removal work. Entek recommends a licensed asbestos contractor be used to remove ACCM even if less than 100 square feet of ACCM are being disturbed.

For compliance with Title 8, Section 341.9, the asbestos contractor must send written notice at least one day (24 hours) prior to start of any work which will impact any amount of asbestos to the local office for the State of California, Department of Occupational Safety and Health, and perform all work in accordance with Cal/OSHA requirements.

Lead Inspection and Sampling

An X-ray fluorescence (XRF) Spectrum Analyzer was used during the lead inspection portion of this survey as a screening tool in determining if lead is present in quantities which would require existing paints and/or coatings to be classified as Lead-Based Paint (LBP).

In XRF spectroscopy, the process begins by exposing the sample in question to a source of x-rays or gamma rays. As these high energy photons strike the sample, they tend to knock electrons out of their orbits around the nuclei of the atoms that make up the sample. When this occurs, an electron from an outer orbit, or "shell", of the atom will fall into the shell of the missing electron. Since outer shell electrons are more energetic than inner shell electrons, the relocated electron has an excess of energy that is expended as an XRF photon. This fluorescence is unique to the composition of the sample. The detector collects this spectrum and converts them to electrical impulses that are proportional to the energies of the various x-rays in the sample's spectrum. Since each element has a different and identifiable x-ray signature, we can look at specific parts of the emitted spectrum, and by counting the pulses in the sector, determine the presence and concentration of the element(s) in question within the sample. Entek used a Niton XRF spectrum analyzer which is specific to measuring only lead in the building substrate.

Lead Sampling Results

XRF Spectrum Analyzer testing indicated lead was present in concentrations $>1.0 \text{ mg/cm}^2$

on various building components. XRF direct reading technology is not capable of determining lead concentrations below 1.0 mg/cm². The limit of detection for this device with a 95% confidence level is 1.0 mg/cm². As a result, any reading provided by the XRF technology does not provide adequate information to determine the actual content of lead in the paint/coating being tested. Any XRF reading less than 1.0 mg/cm² (including readings of 0.00) only indicate lead is not present at levels high enough to classify the paint/coating as LBP. Some coatings or materials which resulted in a lead concentration of below 1.0 mg/cm² were then sampled and analyzed by atomic absorption spectrometry (AAS) for lead content. Results of the XRF analysis and laboratory analysis are included in the tables below.

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/LCP
Aerator			
Yellow Paint	2.7 mg/cm ²	Metal Ladder	LBP
Red over Gray Paint	4.4 mg/cm ²	Aerator Piping	LBP
Diversion Tunnel Intake Structure			
Tan Paint	470 ppm	Exterior Metal Window Frames	LCP
Gray/Silver Paint	1,500 ppm	Interior Metal Walls	LCP
Orange Paint	210,000 ppm	Interior Metal Ladder	LBP
Communications Building			
Yellow Paint	180 ppm	Exterior Metal Bollards	LCP
Fish Holding Facility			
Gray/Silver Paint	500 ppm	Metal Handrail and Equipment throughout Interior	LCP
Silver paint	110,000 ppm	Metal Mechanical unit in center of fish holding ponds	LBP
Silver Paint	92,000 ppm	Exterior Equipment Structures	LBP
Penstock			
Pink Paint	65,000 ppm	6' Diameter Penstock Piping	LBP
Red Paint	60 ppm	6' Diameter Penstock Piping	LCP
Penstock Intake Structure			
Tan Paint	140 ppm	Exterior Metal Siding and Equipment	LCP
Red Paint	170,000 ppm	Metal Walkway	LBP
Tan Paint	2.2 mg/cm ²	Metal Structural Components	LBP
Silver Paint	2.6 mg/cm ²	Handrails	LBP
Powerhouse			
Orange Paint	83,000 ppm	Interior Metal Handrails and Guardrails throughout	LBP
Gray Paint	980 ppm	Interior Floor and Equipment Blocks	LCP

Paints/Coatings/ Materials Determined to Contain Lead			
Paint/Coating Color or Material	Lead Content	Component/Location	LBP/ LCP
Powerhouse (continued)			
Tan Paint	7,200 ppm	Walls in Turbine Room	LBP
Off-White/Silver Paint	860 ppm	Exterior stop Log Gates	LCP
Orange Paint	150,000 ppm	Exterior Stop Log Supports	LBP
Silver Paint	14.2 mg/cm ²	Metal Crane Rails on top of Powerhouse	LBP
Yellow Paint	2.8 mg/cm ²	Interior Metal Ladders	LBP
Gray Paint	1.9 mg/cm ²	Metal Equipment on top of Powerhouse	LBP

LBP - Materials/coatings/paints meeting the definition of lead-based paint as defined by the CDPH and the US EPA, currently defined as containing lead in concentrations equal to or greater than 1.0 mg/cm², 5,000 ppm, or 0.5% by weight.

LCP - Materials/coatings/paints which contain measurable amounts of lead. The disturbance of these materials/coatings/paints is regulated by Cal/OSHA.

Lead Regulatory Compliance

Any upcoming project which may result in the disturbance of lead containing products or surfaces, but is not intended to remediate a lead hazard or specifically designed to remove LBP to reduce or eliminate a known hazard, would be considered “lead related construction work”.

Lead related construction work does not fit the classification of a “lead abatement project” under CDPH Title 17 regulations. “*Abatement*” is defined in Title 17, Division 1, Chapter 8, Article 1 as “any set of measures designed to reduce or eliminate lead hazards or LBP for public and residential buildings, but does not include containment or cleaning.” A *lead hazard* is defined in Title 17, Division 1, Chapter 8, Article 1 as “deteriorated LBP, lead contaminated dust, lead contaminated soil, disturbing LBP or presumed LBP without containment, or any other nuisance which may result in persistent and quantifiable lead exposure.”

Lead related construction work means any “construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead”. (Title 17, California Code of Regulations, Division 1, Chapter 8, Article 1).

Currently, Cal/OSHA has not established a definition for LBP, nor have they established minimum concentrations where their regulations do not apply. Cal/OSHA regulates all construction activities involving materials containing lead, including LBP. These regulations are found in CCR, Title 8 Section 1532.1 (§1532.1) Lead in Construction.

Cal/OSHA has not established a concentration of lead in a product where their regulations

do not apply, therefore, any disturbance to products containing lead come under the jurisdiction of Cal/OSHA and their regulations. Disturbance of paints/coatings or materials determined to be LBP may trigger a pre-work notification to Cal/OSHA if “trigger tasks” disturb 100 square feet or more of those paints/coatings or materials. Trigger tasks are described in Title 8 CCR 1532.1.

Fluorescent Light Tubes and Polychlorinated Biphenyls (PCBs)

Fluorescent light tubes which contain mercury are considered a universal waste and must be packaged and recycled appropriately if they are removed from a building and not used again. The regulation, called the Universal Waste Rule, are in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 23.

Fluorescent light tubes are the bulb or tube portion of an electric lighting device and are commonly referred to as “lamps”. Examples of other common electric lamps considered to be universal wastes include, but are not limited to, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Any lamp which is not spent and has been designated to be reused is not classified as a waste and does not meet the requirements of a hazardous waste or a universal waste.

Spent lamps typically contain concentrations of mercury exceeding the established Total Threshold Limit Concentration (TTLC) and/or the Soluble Threshold Limit Concentration (STLC) values. Therefore, these lamps must be sent to an authorized recycle facility or to a universal waste consolidator for shipment to an authorized recycling facility.

At a minimum, if removed lamps will not be reused they must be packaged in boxes/packages/containers which are structurally sound, adequate to prevent breakage, and compatible with the content of the lamps. These packages must remain closed and be free of damage which could cause leakage under reasonably foreseeable conditions. Each container must be labeled or marked clearly with one of the following phrases: “Universal Waste Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).” Entek recommends shipping any lamp not designated for reuse to a universal waste recycling facility once they have been packaged.

PCB containing light ballasts are considered a hazardous waste, and must be properly manifested for transport to a hazardous waste facility. Any contractor who may perform PCB related work (inspection, removal, clean-up) must be trained and qualified to do so. All workers must also follow current OSHA regulations including 29 CFR 1910.120 and 8 CCR 5192, as well as, other applicable federal, state, and local laws, and regulations. While light ballasts marked “No PCB” are not considered a hazardous waste, they are considered a universal waste. As a result, removal, packaging, and disposal/recycling of these types of ballasts must be conducted in accordance with current regulations of Title 22.

Entek and AECOM made an effort to assist in quantifying select materials throughout the structure. The below quantities are estimates based on observations during the assessment. It shall be the contractor responsibility to verify the total quantities present.

Universal Waste Inventory	
Other Regulated Building Material Description	Approximate Quantity
Mercury-Containing fluorescent light tubes (4' length)	20
Mercury-Containing fluorescent light tubes (8' length)	10
Magnetic light ballasts	10
HID Lamps	6
Mercury-containing switches, controls, and recorders	None Observed
PCB-Containing Transformer Oil	Assumed Present in Switchyard

PCB Caulking Results		
Material Description	Material Location	Sample Results (ppm)
Flexible Gray Expansion Joint Sealant	Top of Powerhouse at expansion joints	None Detected

Thermostats with Mercury Switches

It is possible existing thermostats may utilize switches containing mercury. The mercury in these switches would be considered a hazardous waste if removed and disposed. Any work requiring removal of thermostats containing mercury switches, must include having the switches inspected for the presence of mercury, and subsequently following all requirements for packaging and disposal of any switch found to contain mercury.

Freon and Fluorocarbons

Freon and other fluorocarbon products associated with HVAC systems, refrigerators, etc. may be present in or on the exterior of the buildings included in this investigation. Prior to demolition of a structure or removal of existing HVAC systems, refrigerators, or any other type of equipment which typically uses these types of coolant products shall have the coolant materials investigated prior to their demolition and removed from the mechanical systems and recycled in accordance with Cal/EPA requirements.

Smoke Detectors Which May Contain a Radioactive Element

It is possible existing smoke detectors may contain a radioactive element. These types of detectors are easily identified by reviewing the label which is usually found on the back of the detector. Older units may display the international radiation symbol (three bladed propeller) and the radioactive content. Newer units state the radioactive content and their Nuclear Regulatory Agency (NRC) license number.

Any work requiring the removal of smoke detectors with a radioactive element must include contacting the manufacturer of the smoke detector to determine their return policies. The California Department of Toxic Substance Control (DTSC) has stated that it is a condition of the manufacturers NRC license they must accept returned units for disposal.

Limitations

Entek inspected only the specific designated areas identified by the Owner to be included in the upcoming project. Select structures as outlined in the building description portion of this report were not assessed due to either safety concerns or at the request of the building owner. As a result the information provided in this inspection report may not be used to extend the inspection results to areas not included in this report without additional review and sampling as necessary.

Entek did not perform any destructive sampling to look into ceiling and wall cavities. As a result, it may be possible for materials to be hidden in these areas which are not included in this report. Entek also did not employ any destructive measures on floors of interior spaces or exterior areas covered with asphalt, concrete, or dirt.

If any new materials not listed as having been sampled, or listed as assumed for containing asbestos in this report are discovered, the new material must be assumed to contain asbestos until properly inspected and tested for asbestos content.

Entek's policy is to retain a full copy of these written documents for three (3) years once the file is closed. At the end of the 3 year period the written files will be destroyed without further notice. It is suggested copies of the file(s) are maintained as per your policy.

Entek will be providing only this electronic copy of the report and its attachments for your use. However, if you would like a hard copy of this report please do not hesitate to ask. Entek will be happy to mail the report upon receipt of your request.

Thank you for choosing Entek for your environmental needs. Please call me at (916) 632-6800 if you have any questions regarding this report.

Prepared by: *Andy Roed*
Andy Roed, CIH, CSP, CAC
President
Cal/OSHA CAC #16-5695
CDPH I/S/M Certification #2989

Appendices

- A. Asbestos Related Documents
- B. Lead Related Documents
- C. Backup Documentation

APPENDIX A

ASBESTOS RELATED DOCUMENTS

- Bulk Asbestos Analysis Report From Asbestech
- Bulk Asbestos Material Analysis Request Form for Entek

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 asbestech@sbcglobal.net

Client:

Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:

20-5562 NV5
Iron Gate Dam

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67928
Date/Time Collected: 9/14/20
Date Received: 10/7/20

NVLAP Lab Code 101442-0
CDPH # 1153
Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDAE-01A	Silver paint, aerator piping near ground level	NONE DETECTED	Opagues
	Black asphaltic wrap	NONE DETECTED	Tar Binder Fibrous Glass
02A	Gray concrete , foundation of ladder	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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Iron Gate Dam

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67946

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDCB-01A	Black asphalt exterior of Communications building	NONE DETECTED	Tar Binder Granular Mins.
01B	Black asphalt exterior of Communications building	NONE DETECTED	Tar Binder Granular Mins.
02A	Black asphalt joint sealant exterior of Communications building	NONE DETECTED	Tar Binder Granular Mins.
02B	Black asphalt joint sealant exterior of Communications building	NONE DETECTED	Synthetics Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67925

Date/Time Collected: 9/14/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDES-01A	Black asphaltic roofing shingles (no felt paper), roof on shed	NONE DETECTED	Tar Binder Fibrous Glass
01B	Black asphaltic roofing shingles (no felt paper), roof on shed	NONE DETECTED	Tar Binder Fibrous Glass

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67938

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDFHF- 01A	Gray concrete at foundation of fish holding facility building	NONE DETECTED	Granular Mins.
02A	Gray concrete of fish holding ponds	NONE DETECTED	Granular Mins.
03A	Silver paint of black asphaltic material (inseparable from asphaltic material) gutter along fish ladder near gantry gate	1-5 CHRYSOTILE	Opagues
	Black asphaltic material	20-30 CHRYSOTILE	Tar Binder
03B	NOT ANALYZED		

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67935

Date/Time Collected: 10/7/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDFHS- 01A	Black felt paper under metal roofing	NONE DETECTED	Tar Binder Cellulose
01B	Black felt paper under metal roofing	NONE DETECTED	Tar Binder Cellulose

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67927

Date/Time Collected: 9/14/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDFPS-01A	Gray concrete on supports for fish hatchery water supply	NONE DETECTED	Granular Mins.
	Gray grout	NONE DETECTED	Granular Mins.
02A	Brown fibrous material at saddles for fish hatchery water supply	NONE DETECTED	Synthetics Cellulose
03A	Silver paint on fish hatchery water supply	NONE DETECTED	Opagues
	Black asphaltic material	NONE DETECTED	Tar Binder Cellulose

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67929

Date/Time Collected: 9/14/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDPH-01A	Gray CMU, power house interior wall	NONE DETECTED	Granular Mins.
	Gray grout	NONE DETECTED	Granular Mins.
02A	Gray concrete , power house floor	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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20-5562 NV5
Iron Gate Dam

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67932

Date/Time Collected: 9/14/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDPIS-01A	Gray concrete, intake house foundation	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.

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Job:

20-5562 NV5
Iron Gate Dam

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 67926

Date/Time Collected: 9/14/20

Date Received: 10/7/20

NVLAP Lab Code 101442-0

CDPH # 1153

Date Analyzed: 10/8/20

<i>Sample No.</i>	<i>Color/Description</i>	<i>% Type Asbestos</i>	<i>Other Materials</i>
ECG-20-5562-IGDRR-01A	Gray concrete foundation of bldg.	NONE DETECTED	Granular Mins.
02A	Gray CMU, storage area interior wall	NONE DETECTED	Granular Mins.
	Gray grout	NONE DETECTED	Granular Mins.

THE ANALYSIS USES POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING FOLLOWING E.P.A. METHOD 600/R-93/116. NON-FRIABLE MATERIALS WERE ANALYZED APPLYING THE SAME METHOD. THE LOWER DETECTION LIMIT IS <1 % WITH THE PROVISIO THAT PLM MAY NOT DETECT FIBERS <0.25 MICRONS IN DIAMETER THAT MAY BE PRESENT IN SAMPLES SUCH AS FLOOR TILES. IN ACCORDANCE WITH TITLE 22, CCR, SECTION 66261.24(a)(2)(A), THE MCL IS 1 %. SAMPLES WERE NOT COLLECTED BY ASBESTECH. THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF ASBESTECH. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY N.V.L.A.P. OR ANY AGENCY OF THE U.S. GOVERNMENT. ASBESTECH ACCEPTS TECHNICAL RESPONSIBILITY FOR THIS REPORT AND DATE OF ISSUE.



67928

BULK ASBESTOS MATERIAL *Analysis Request*

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-14-2020

Job Number: 20-5562

Client Name: NV5

Site Address: Iron Gate Dam

Lab: Asbestech

Collected by: Andy Roed

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-IGDAE-01A	Silver Paint over Black Asphaltic Wrap / Aerator Piping, Near ground level
ECG-20-5562-IGDAE-02A	Concrete / Foundation of ladder

C:\Users\selbert\Entek Consulting Group, Inc\Entekgroup - Documents\Clients\NV5\20-5562 Klamath Dams\Field Documents\Iron Gate\COCs\IGDAE\Bulk Request 9-15-2020.wpd

Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM



BULK ASBESTOS MATERIAL *Analysis Request*

67946

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mainoffice@entekgroup.com

Date of Sampling: 09-14-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: Iron Gate Dam

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-IGDCB-01A	Black Asphalt / Exterior of Communications Building
ECG-20-5562-IGDCB-01B	Black Asphalt / Exterior of Communications Building
ECG-20-5562-IGDCB-02A	Black Asphalt Joint Sealant / Exterior of Communications Building
ECG-20-5562-IGDCB-02B	Black Asphalt Joint Sealant / Exterior of Communications Building

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Delivered by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 1040 AM/PM



67925

BULK ASBESTOS MATERIAL Analysis Request

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-14-2020

Job Number: 20-5562

Client Name: NV5

Site Address: Iron Gate Dam

Lab: Asbestech

Collected by: Andy Roed

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-IGDES-01A	Asphaltic Roofing Shingles (No Felt Paper) / Roof of Shed
ECG-20-5562-IGDES-01A	Asphaltic Roofing Shingles (No Felt Paper) / Roof of Shed

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Delivered by: [Signature]

Date: 10 / 7 / 20 **Time:** 1040 AM/PM

Received by: [Signature]

Date: 10 / 7 / 20 **Time:** 1045 AM/PM



BULK ASBESTOS MATERIAL *Analysis Request*

6 7938

ENTEK CONSULTING GROUP, INC.

4200 ROCKLIN ROAD, SUITE 7
ROCKLIN, CA 95677
(916) 632-6800 PHONE
(916) 632-6812 FAX
mainoffice@entekgroup.com

Date of Sampling: 09-14-2020

Lab: Asbestech

Job Number: 20-5562

Collected by: Andy Roed

Client Name: NV5

Turnaround Time: Day: Tuesday
Date: 10 / 13 /20 Time: 5 pm

Site Address: Iron Gate Dam

ANALYSIS REQUESTED: Asbestos by PLM
with Dispersion Staining

Special Instruction: *Stop Analysis upon first positive result (>1%) for sample in a series. Also stop analysis upon first positive result (>1%) in the joint compound for sample series.*

Please e-mail results at mainoffice@entekgroup.com as soon as available and include copy of submittal with those results.

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-20-5562-IGDFHF-01A	Concrete at Coundation of Fish Holding Facility Building
ECG-20-5562-IGDFHF-02A	Concrete of Fish Holding Ponds
ECG-20-5562-IGDFHF-03A	Silver Paint of Black Asphaltic Material / Gutter Along Fish Ladder Near Gantry Gate
ECG-20-5562-IGDFHF-03B	Silver Paint of Black Asphaltic Material / Gutter Along Fish Ladder Near Gantry Gate

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Delivered by: 

Date: 10 / 7 / 20 **Time:** 10:00 AM/PM

Received by: 

Date: 10 / 7 / 20 **Time:** 10:40 AM/PM