



ACUMEN

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

February 19, 2025

Titus Chen, PE
Associate Civil Engineer
City of Berkeley | Public Works Engineering
1947 Center Street, 5th Floor
Berkeley, CA 94704

RE: Follow-up Asbestos Roof Inspection
Corporate Yard Building B
1326 Allston Way
Berkeley, California
Acumen Proposal No. COB 2125A

Dear Titus,

The purpose of this letter is to report and discuss the findings of a follow-up asbestos containing materials (ACM) inspection Acumen Industrial Hygiene, Inc. (Acumen) conducted for City of Berkeley, the Client, at the Berkeley Corporation Yard Building B. It is a one-story masonry building located at 1326 Allston Way in Berkeley, California (Site). Acumen's representative, Mr. Tam Pham, an asbestos registered California Certified Asbestos Consultant (CAC) and Lead Inspector/Assessor (I/A), conducted this follow up investigation on January 29, 2025. We focused our bulk sampling on roofing materials at the building (Photo 1) that were not tested during our previous investigation on November 5, 2021. We also sampled other suspect roofing material and tested them for lead.

The objectives of this follow-up investigation are as follows:

- To identify regulated asbestos containing materials (RACMs), defined by Bay Area Air Quality Management District (BAAQMD). RACMs and Category I and II materials that will be rendered friable need to be removed if they are to be impacted by building renovation and before the building can be demolished.
- To identify asbestos containing materials (ACM) that would require compliance with California Department of Industrial Relations – Division of Occupational Safety and Health (Cal/OSHA) asbestos regulations and waste disposal. ACM is a manufactured construction material with an asbestos content that is greater than 1% by weight.
- To identify asbestos containing construction materials (ACCM) that would require compliance with California Department of Industrial Relations – Division of Occupational Safety and Health (Cal/OSHA) asbestos regulations. ACCM is a manufactured construction material with an asbestos content that is greater than 0.1% by weight.
- To identify lead-containing materials (LCMs) primarily in roof flashing that would need to be removed before demolition for compliance with DTSC regulations. The evaluation was not

intended to be either a lead inspection or a lead hazard evaluation as defined by California Department of Public Health (17CCR35001 et seq).

- To visually inspect for other potentially hazardous building materials on roof that would require removal prior to demolition to comply with DTSC hazardous waste disposal regulations. The handling of universal hazardous waste also requires compliance with Cal/OSHA regulations. These universal hazardous wastes may include Freon.

Summary of Follow-Up Investigation

Where suspect asbestos materials were noted, Acumen collected bulk samples and submitted them with our chain of custody forms to Micro Analytical Laboratories, Inc. (Emeryville, CA) for analysis. This laboratory is accredited by the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for asbestos. In addition, this laboratory holds certification from the American Industrial Hygiene Association (AIHA). The suspect asbestos material samples collected were analyzed by polarized light microscopy (PLM). This analytical method identifies the type(s) of asbestos present in the sample and its corresponding percent concentration(s). The reliable limit of quantification of this method is 1% asbestos.

Where suspect lead material, bulk sample was collected and submitted to Micro Analytical Laboratories, Inc. (Emeryville, CA) for analysis. This laboratory is accredited by the AIHA under the Environmental Lead Laboratory Accreditation Program (ELLAP) for selected lead analysis methods. The lead laboratory reports are shown in Appendix A. When a result is noted to be less than (<) on the lead sample report, this means the result is below analytical detection limit.

Previous Asbestos and Lead Findings

Acumen conducted a survey of the Site on November 5, 2021, and issued a report titled *Asbestos, Lead, and Other Hazardous Building Materials Investigation* on February 16, 2022. The report can be found in Appendix D. More detailed information about asbestos and non-asbestos containing materials, leaded paints and materials and hazardous building materials can be found in Section 4.0 in our previous reports.

Follow-up Asbestos and Lead Findings and Discussion

Based on bulk samples collected, asbestos containing materials were not discovered on the roof. The laboratory analytical results are included in Appendix A. Asbestos sample locations are illustrated on the Sample Location Floor Plans provided in Appendix B. Representative photographs of materials identified are provided in Appendix C, but locations of these materials are not limited to the areas shown in these photographs. Previous Acumen's report for this Site can be found in Appendix D.

Table 1 shows a summary of sample results for roofing materials collected from the roof that did not contain detectable amounts of asbestos. Table 2 presents lead material sample results.

Friable Asbestos Containing Materials

During this follow-up inspection, we did not find any friable asbestos containing materials based on bulk samples collected on the roof.

Non-Friable Asbestos and Assumed Containing Materials

During this follow-up inspection, we did not find non-friable asbestos containing materials based on bulk samples collected on the roof.

Lead-Containing Material

During this follow-up inspection, we found lead containing material as follow:

- Flashing contains up to 1,000,000 parts per million (ppm) of lead (samples COB2125A-PB01, Photo 2). This flashing can be found at roof penetration throughout the roof such as around pipes, vents, electrical conduits, and other penetrations. There are approximately 6 lead flashings that require to be removed prior to demolition, regardless of their location. The removal work is regulated under the Cal/OSHA standard 8CCR1532.1 for worker protection from lead-hazard exposure. If disposed, it is considered California and Federal hazardous waste. This material should be separated for recycling, rather than disposed of as a hazardous waste.

Lead-containing materials (LCM) that have a concentration above 50 parts per million (ppm) must be segregated for waste characterization or recycled according to the California Department of Toxic Substances Control. LCM with a concentration above 1,000 ppm are considered hazardous waste in California, unless they can be recycled, and therefore they are not a waste.

Construction work that disturbs lead-materials (including flashings) will need to be conducted in accordance with Cal/OSHA's lead in construction regulations (8CCR1532.1). These regulations apply to any material that contains detectable amounts of lead. In theory, this should not pose a significant problem as this regulation has been in effect since 1992. The Cal/OSHA lead in construction standard requires a contractor whose work involves disturbing lead-containing materials to develop and implement a lead compliance plan. The written lead compliance plan would essentially acknowledge the presence of lead and would describe procedures to minimize airborne lead exposures. The flashing waste should be recycled

Regulated Asbestos Containing Materials

The BAAQMD regulates air emissions from building renovation and demolition projects. This agency requires that materials with an asbestos content greater than 1% be removed before building demolition or renovation if they are either friable or the work will damage or otherwise render them friable. We did not find any RACMs on the roof during this follow-up investigation.

Universal Hazardous Waste

Roof mount heating, ventilation, air conditioning (HVAC) units contain Freon, which will require recycling prior to demolition.

- One (1) HVAC unit with Freon (Photo 3).

Recommendations

The findings of this investigation warrant the following actions:

- Notify potential renovation or demolition contractors that asbestos was not discovered on the roof.
- Notify potential renovation or demolition contractors of the presence of lead-containing flashing on the roof. Disturbance of the lead flashings requires compliance with Cal/OSHA's lead in construction regulation. The lead flashings should be removed and recycled, rather than disposed as a hazardous waste.
- If additional suspect materials were discovered during demolition, these materials should be sampled to confirm that they do not contain asbestos or lead prior to their removal.
- Prior to submitting bids to perform lead flashing removal work, abatement contractors should field verify all the estimated quantity of lead flashing stated in this report. The abatement contractors

should also refer to our previous report for recommendations and asbestos materials, leaded paints and other hazardous building materials that were found.

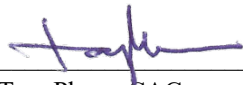
- The demolition contractor can recycle other universal hazardous wastes such as Freon, if specifically included in their scope of work.

Conclusion

This follow-up inspection did not find ACM based on bulk samples collected on the roof. Lead flashings are present and compliance with the Cal/OSHA lead standard is required. The lead flashings will require segregation and recycling.

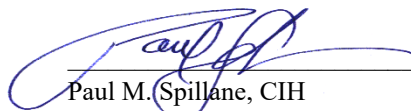
Please feel free to contact us if you have any questions or comments regarding this report. Thank you for the opportunity to be of service.

Prepared by:



Tam Pham, CAC
Certified Asbestos Consultant #13-5033
CDPH Lead Accredited #LRC-00004523

Reviewed by:



Paul M. Spillane, CIH
Certified Asbestos Consultant #10-4630
CDPH Lead Accredited #LRC0000453



Table 1: Non-Asbestos Containing Materials

Table 2: Summary of Lead TTLC Sample Results

Appendix A: Laboratory Reports

Appendix B: Sample Location Floor Plans

Appendix C: Photographs

Appendix D: Acumen's Previous Survey Report

Table 1

Non-Asbestos Containing Materials
1326 Allston Way
Berkeley, CA

January 29, 2025

Location	Material	Results ¹	Sample No.
Roof - South	Roof Field Core	Tar: ND Gravel: ND Fiberglass Felt: ND	COB2125A-01A
Roof - North	Roof Field Core	Tar: ND Gravel: ND Fiberglass Felt: ND	COB2125A-01B
Roof - West	Parapet Wall	Tar: ND Gravel: ND Fiberglass Felt: ND Insulation: ND	COB2125A-02A
Roof - East	Parapet Wall	Tar: ND Gravel: ND Fiberglass Felt: ND Insulation: ND	COB2125A-02B
Roof - South	Penetration Mastic at Plumbing Pipe	Mastic: ND	COB2125A-03A
Roof - Center	Penetration Mastic at Vent Pipe	Silver Paint: ND Tar: ND Mastic: ND	COB2125A-03B
Roof - North	Penetration Mastic at Electrical	Gravel: ND Mastic: ND	COB2125A-03C
Roof - West	Black Cap Sheeting Caulking	Caulking: ND	COB2125A-04A
Roof - East	Black Cap Sheeting Caulking	Caulking: ND	COB2125A-04B
Roof - West	Gray Pipe Caulking on Parapet Wall	Caulking: ND	COB2125A-05A
Roof - East	Gray Pipe Caulking on Parapet Wall	Caulking: ND	COB2125A-05B

Footnote

1. Samples were analyzed by polarized light microscopy (PLM) and reported as not containing detectable amounts of asbestos. ND indicates that asbestos was not detected.

Table 2

Summary of Lead TTLC Sample Results
1326 Allston Way
Berkeley, CA

January 29, 2025

Location	Material	Result ¹	EQ ²	Sample No.
Roof - East	Pipe Flashing	1,000,000	6 Each	COB2125A-PB01

Footnote

1. Samples are analyzed by Total Threshold Limit Concentration (TTLC) in accordance with EPA Methods 3050B for Acid Digestion (SW 846, 3rd edition, 2007) and 7420 for Analysis (SW-846, 3rd edition, 2007). Results reported in milligram per kilogram (mg/kg) or parts per million (ppm). The "<" sign means below analytical detection limit.
2. EQ means estimated quantity either in square feet (SF). Ceramic tile contains more than 1,000 ppm lead would be classified as California hazardous wastes. If ceramic tile or other material contains greater than 50 ppm lead but less than 1,000 ppm lead, then it should also be removed and tested for leachable lead per the STLC/TCLP methods, prior to demolition or renovation. Estimated quantities should be confirmed by an abatement contractor prior to bid or removal. N/A = Removal is not required.



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Appendix A

Laboratory Reports

1326 Allston Way
Berkeley, CA

February 2025

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125A
CORPORATE YARD BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **325274**
Total Samples 11
Date Sampled 01/29/2025
Date Received 01/29/2025
Date Analyzed 01/29/2025

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #:	COB2125A-01A		
Micro #:	325274-01	Analyst: CR	
ROOF, SOUTH ROOF FIELD CORE		TAR: ND GRAVEL: ND FIBERGLASS FELT: ND	60 % FIBROUS GLASS NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-01B		
Micro #:	325274-02	Analyst: CR	
ROOF, NORTH ROOF FIELD CORE		TAR: ND GRAVEL: ND FIBERGLASS FELT: ND	60 % FIBROUS GLASS NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-02A		
Micro #:	325274-03	Analyst: CR	
ROOF, WEST PARAPET WALL		TAR: ND GRAVEL: ND FIBERGLASS FELT: ND INSULATION: ND	30 % CELLULOSE 60 % FIBROUS GLASS NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-02B		
Micro #:	325274-04	Analyst: CR	
ROOF, EAST PARAPET WALL		TAR: ND GRAVEL: ND FIBERGLASS FELT: ND INSULATION: ND	30 % CELLULOSE 60 % FIBROUS GLASS NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-03A		
Micro #:	325274-05	Analyst: CR	
ROOF, SOUTH PENETRATION MASTIC AT PLUMBING PIPE		MASTIC: ND	10 % CELLULOSE NFM: TAR/ASPHALT, BINDER

Technical Supervisor:

Baojia Ke, Ph.D.

1/30/2025

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA – Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125A
CORPORATE YARD BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **325274**
Total Samples 11
Date Sampled 01/29/2025
Date Received 01/29/2025
Date Analyzed 01/29/2025

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #:	COB2125A-03B		
Micro #:	325274-06	Analyst: CR	
	ROOF, CENTER PENETRATION MASTIC AT VENT PIPE	SILVER PAINT: ND TAR: ND MASTIC: ND	NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-03C		
Micro #:	325274-07	Analyst: CR	
	ROOF, NORTH PENETRATION MASTIC AT ELECTRICAL	GRAVEL: ND MASTIC: ND	15 % CELLULOSE NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-04A		
Micro #:	325274-08	Analyst: CR	
	ROOF, WEST BLACK CAP SHEETING CAULKING	CAULKING: ND	10 % CELLULOSE NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-04B		
Micro #:	325274-09	Analyst: CR	
	ROOF, EAST BLACK CAP SHEETING CAULKING	CAULKING: ND	10 % CELLULOSE NFM: TAR/ASPHALT, BINDER
Client #:	COB2125A-05A		
Micro #:	325274-10	Analyst: CR	
	ROOF, WEST GRAY PIPE CAULKING ON PARAPET WALL	CAULKING: ND	NFM: CARBONATE, MISC. PARTICLES

Technical Supervisor:

Baojia Ke, Ph.D.

1/30/2025

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA – Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



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PROJECT:
PROJECT NO. COB 2125A
CORPORATE YARD BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **325274**
Total Samples 11
Date Sampled 01/29/2025
Date Received 01/29/2025
Date Analyzed 01/29/2025

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #:	COB2125A-05B		
Micro #: 325274-11	Analyst: CR BK	CAULKING: ND	
ROOF, EAST GRAY PIPE CAULKING ON PARAPET WALL			NFM: CARBONATE, MISC. PARTICLES

Technical Supervisor:

Baojia Ke, Ph.D.

1/30/2025

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA – Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.



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BULK CHAIN OF CUSTODY FORM

325274
(PLM)

Project No. COB 2125A

Location: Corporate Yard Building B
Address: 1326 Allston Way
Berkeley, CA
Sampling Date: 1/29/2025

Laboratory: Micro Analytical Laboratories, Inc.

Turnaround: ☒ Normal ☐ 24 Hour ☐ Rush

Collection By: Tam Pham

	Sample No.	Floor	Location	Description	Method
1	COB 2125A-01A	Roof	South	Roof field core	PLM
2	01B		North		Adaptos
3	02A		West	Parapet wall	
4	02B		East		
5	03A		South	Penetration master at plumbing	
6	03B		Center	pipe vent pipe	
7	03C		North	electrical	
8	04A		West	Black cap sheeting caulking	
9	04B		East		
10	05A		West	gray pipe caulking on parapet wall	
11	05B		East		
	PS01		East	Pipe flashing	TTCC

LEAD

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:	Received By: MS
Date Submitted: 1/29/2025	Date Received: 1/29/25 1324

Sample(s) Submitted Via: ☒ Hand Delivered ☐ Federal Express (Air Bill # _____) ☐ Other: _____

MICRO ANALYTICAL LABORATORIES, INC.**EPA SW-846 LEAD-TTLC**

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Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:

PROJECT NO. COB 2125A
CORPORATE YARD BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **325275**
Total Samples 1
Date Sampled 01/29/2025
Date Received 01/29/2025
Date Analyzed 01/31/2025

Sample ID	Lead Concentration, ppm	RDL, ppm	Comments
Client PB-01 Micro 325275-01 ROOF, EAST PIPE FLASHING	1000000	50000	

Technical Supervisor: Long T. Nguyen, Chemistry Supervisor 1/31/2025 Date Reported

Analyst: RN

Samples are analyzed by Flame Atomic Absorption Spectrometry (FLAAS) using SOP 23-Soil (in accordance with EPA Methods 3050B for Acid Digestion (SW 846, 3rd edition, 2007) and 7420 for Analysis (SW-846, 3rd edition, 2007)). NOTE: Water samples are analyzed by FLAA in accordance with Method 3111B (Standard Methods for the Examination of Water and Wastewater, 18th edition). Unless otherwise indicated on this report, all required Quality Control samples have been determined to be in control prior to releasing these analytical results. Unless otherwise stated in this report, all samples were received in acceptable condition for analysis. Note: due to software limitations, the number of reported significant figures does not necessarily reflect the uncertainty of the analysis. This report must not be reproduced except in full without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. Unit explanations: mg = milligrams; kg = kilograms; ppm = parts per million. TTLC = TOTAL THRESHOLD LIMIT CONCENTRATION. L = liters. RDL = Report Detection Limit. Note: mg / Kg is the same as ppm for solids, and mg/L is the same as ppm for water.

5900 HOLLIS STREET, SUITE M, EMERYVILLE, CALIFORNIA 94608 - (510) 653-0824



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INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2216

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

BULK CHAIN OF CUSTODY FORM

325275
(TTLC)

Project No.

COB 2125A

Location: Corporate Yard Building B

Address: 1326 Allston Way
Berkeley, CA

Sampling Date: 1/29/2025

Laboratory: Micro Analytical Laboratories, Inc.

Turnaround: ☒ Normal ☐ 24 Hour ☐ Rush

Collection By: Tam Pham

Sample No.	Floor	Location	Description	Method
COB 2125A-01A	Roof	South	Roof felt cap	PCM
01B		North		to be done
02A		West	Parapet wall	
02B		East		
03A		South	Penetration mast at plumbing pipe	
03B		Center	vent pipe	
03C		North	electrical	
04A		West	Black cap sheeting caulking	
04B		East		
05A		West	gray pipe caulking on parapet wall	
05B		East		
9501		East	Pipe flashing	TTLC

LEAD

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:	Received By: MS
Date Submitted: 1/29/2025	Date Received: 1/29/25 1324

Sample(s) Submitted Via: ☒ Hand Delivered ☐ Federal Express (Air Bill # _____) ☐ Other: _____



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Appendix B

Sample Location Floor Plans

1326 Allston Way
Berkeley, CA

February 2025

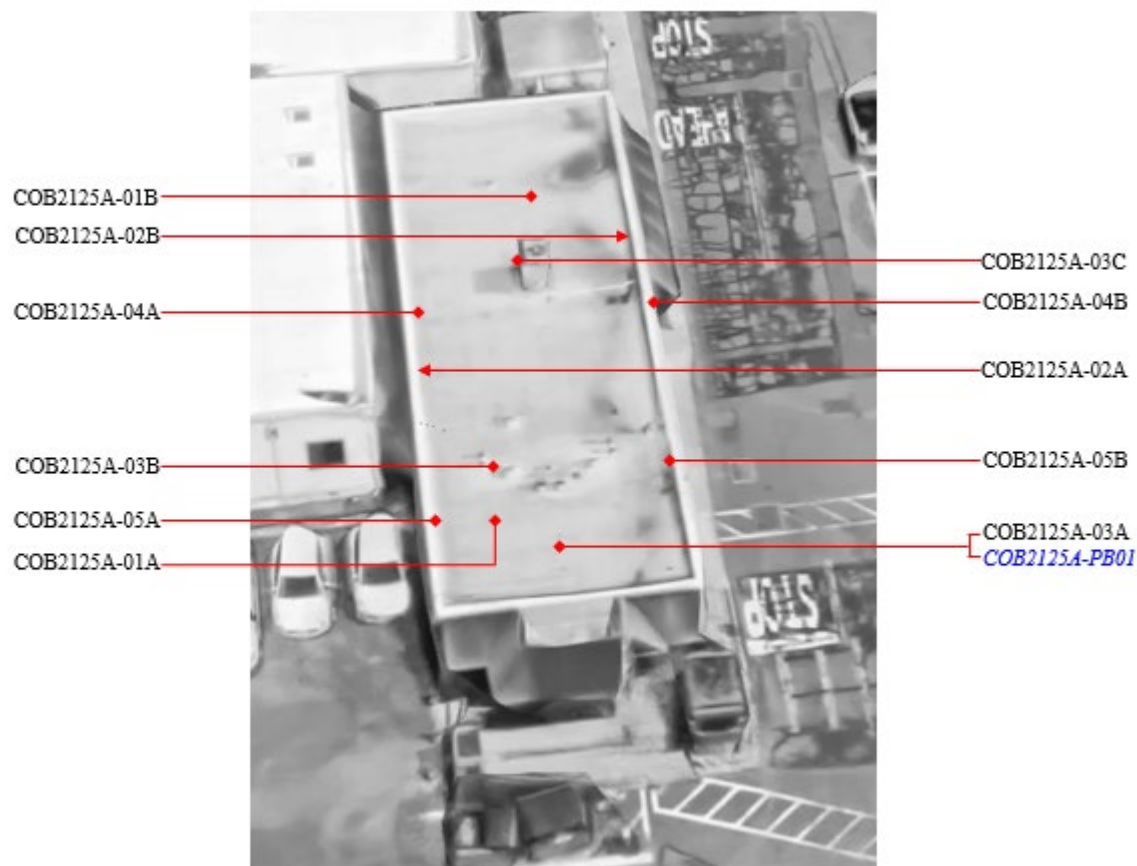


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SAN FRANCISCO CA 94122
415 242 6060
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Project
1326 Allston Way
Berkeley, CA

Project No.	Date
COB 2125A	01/29/2025
Location	
-	
Level	
Roof	



- Vertical Sample
- Floor Sample
- Ceiling Sample
- Asbestos Containing Material
- Lead Sample

* Floor plan is not to scale.





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Appendix C

Photographs

1326 Allston Way
Berkeley, CA

February 2025



Photo 1

1326 Allston Way – Corporate Yard Building B Roof.



Photo 2

Flashing contains up to 1,000,000 parts per million (ppm) of lead.



Photo 3
HVAC unit with Freon.



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Appendix D

Previous Acumen's Report

1326 Allston Way
Berkeley, CA

February 2025



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Asbestos, Lead, and Other Hazardous Building Materials Investigation

City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

February 2021

Acumen Project No. COB 2125

Prepared for:

City of Berkeley - Public Works Engineering
1947 Center Street, 5th Floor
Berkeley, CA 94704

Prepared by:

Tam Pham, CAC (February 16, 2022)
Certified Asbestos Consultant #13-5033
CDPH Lead Accredited #LRC-00004523

Reviewed by:

Paul M. Spillane, CIH, CAC (February 16, 2022)
Certified Asbestos Consultant #10-4630
CDPH Lead Accredited #LRC-00004523



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Assembly Building
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Berkeley, CA

February 2021

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Appendix B	Sample Location Floor Plans
Appendix C	Photographs

1.0 Introduction

The purpose of this report is to present and discuss the findings of an asbestos, lead, and other hazardous building materials investigation that Acumen Industrial Hygiene, Inc. (Acumen) conducted for City of Berkeley, the Client, at the Berkeley Corporation Yard Assembly Building. The Site is a one-story masonry building located at 1326 Allston Way in Berkeley, Alameda County, California. Acumen's representative, Mr. Tam Pham, a registered California Asbestos Consultant (CAC) and Lead Inspector/Assessor (I/A), conducted this investigation on November 5, 2021.

We understand the purpose of this survey is for potential upgrades and renovations. According to records, this building was last renovated back in 1992. At the time of the survey, the building was occupied. Our inspection was limited to accessible areas of the building. Core sampling of the building's roof was not conducted during this investigation. Roof survey can be assessed at a later time, prior to roof removal.

The objectives of this investigation were as follows:

- To identify regulated asbestos containing materials (RACMs), defined by Bay Area Air Quality Management District (BAAQMD). RACMs and Category I and II materials that will be rendered friable need to be removed if they are to be impacted by building renovation and before the building can be demolished.
- To identify asbestos containing materials (ACM) that would require compliance with California Department of Industrial Relations – Division of Occupational Safety and Health (Cal/OSHA) asbestos regulations and waste disposal. ACM is a manufactured construction material with an asbestos content that is greater than 1% by weight.
- To identify asbestos containing construction materials (ACCM) that would require compliance with Cal/OSHA asbestos regulations. ACCM is a manufactured construction material with an asbestos content that is greater than 0.1% by weight.
- To identify primarily deteriorated lead-based paints (LBPs) that would need stabilization/removal before building demolition to comply with California Environmental Protection Agency (EPA) hazardous waste disposal regulations regulated by the California Department of Toxic Substances Control (DTSC). The handling of LBPs would also require compliance with Cal/OSHA lead regulations (8CCR1532.1). The evaluation of paints was not intended to be either a lead inspection or a lead hazard evaluation as defined by Title 17 CCR 35001 *et seq.* Lead-based paint inspections in public or residential buildings are subject to California Department of Public Health (CDPH) regulations.
- To identify lead-containing materials (LCMs) primarily in ceramic tiles that would need to be removed before demolition for compliance with Cal/OSHA and DTSC regulations. The evaluation was not intended to be either a lead inspection or a lead hazard evaluation as defined by California Department of Public Health (17CCR35001 *et seq.*).
- To visually identify other potential hazardous building materials that would require removal prior to demolition to comply with Cal-EPA DTSC hazardous waste disposal regulations. The handling of universal hazardous wastes also requires compliance with Cal/OSHA regulations. These universal hazardous wastes may include polychlorinated biphenyls (PCBs), mercury and Freon.

2.0 Summary of Investigation

2.1 Asbestos Survey Methods

The asbestos inspection consisted of a walkthrough of the Site to identify and sample suspect ACM. Acumen noted significant factors of the suspect ACM, including the friability of suspect materials. Friability describes the ability of a material to be crushed or crumbled, when dry, into a powder using hand pressure.

Where suspect ACMs were noted, bulk samples were collected and submitted with our chain of custody forms to Micro Analytical Laboratories, Inc. (Emeryville, CA) for analysis. This laboratory is accredited by the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for asbestos. This laboratory also holds certification from the American Industrial Hygiene Association (AIHA). The asbestos laboratory results are shown in Appendix A.

Acumen collected thirty-six (36) asbestos samples at the Site. The suspect asbestos samples collected were analyzed by polarized light microscopy (PLM). The asbestos laboratory reports are shown in Appendix A. This method identifies the type(s) of asbestos present in the sample and its corresponding percent concentration(s). The reliable limit of quantification of this method is 1% asbestos.

2.2 Lead-Containing Materials and Paint Survey Methods

The lead inspection consisted of a walkthrough of the Site to identify deteriorated surface coatings and suspect LCMs. Paints that were in deteriorated condition (peeling, chipping, powdering, etc.) and ceramic tiles were sampled, noting the location, color, substrate, and extent of deterioration. Intact paints were also sampled, for Cal/OSHA compliance purposes.

We collected three (3) discrete paint samples for lead analysis. The samples were analyzed by flame atomic absorption (FLAA) spectrometry using Method 7420. Three (3) bulk material sample was analyzed for total lead content by Total Threshold Limit Concentration (TTLC) method, U.S. EPA Method SW-846. The limit of quantification depends on the mass of the sample.

Lead samples were submitted to Micro Analytical Laboratories, Inc. (Emeryville, CA) for analysis. This laboratory is accredited by the AIHA under the Environmental Lead Laboratory Accreditation Program (ELLAP) for selected lead analysis methods. When a result is noted to be less than (<) on the lead sample report, it should be interpreted as meaning below analytical detection limit. The lead laboratory results are also shown in Appendix A.

2.3 Other Hazardous Building Material Survey Methods

During this inspection, we visually verified the presence of other suspect hazardous building materials. We also tallied fluorescent light tubes and estimated the number of ballasts associated with them. Ballasts were assumed to contain PCBs and not sampled. PCB presence can be verified at the time of demolition as non-PCB ballasts will be labeled as such.

3.0 Narrative Summary of Findings

The one-story assembly building was built slab-on grade with concrete masonry unit (CMU) perimeter walls (Photo 1). According to records, this building was last remodeled back in 1992. Interior finishes of the building consist of painted drywall with taping mud that were found not to contain asbestos. The flooring throughout the building consists of vinyl floor tile and ceramic floor tile that were both found not

to contain asbestos. However, the mastics underneath these tiles contain up to 8% asbestos. Exterior paint on perimeter CMU was found not to contain asbestos but the tar material under the exterior paint was found to contain less than 1% asbestos. We did not sample the roof and thus the roof is assumed to contain asbestos until proven otherwise.

There are numerous fluorescent light fixtures, which are suspected to contain mercury (in the tubes), and possibly PCBs in their ballasts. This can be verified at time of abatement, prior to renovation. The exit signs contain batteries, which will require recycling if removed for the renovations.

4.0 Detailed Findings and Discussion

4.1 Asbestos Findings and Discussion

The sampling results for asbestos containing materials are summarized on Table 1. The asbestos containing materials' estimated quantity is not limited to only where the materials were sampled. Table 2 shows the sample results for those materials that did not contain detectable amounts of asbestos. The laboratory analytical results are included in Appendix A. Asbestos sample locations are illustrated on the Sample Location Maps provided in Appendix B. The diagrams indicate where the samples were taken, but locations of these materials are not limited to the areas sampled. Representative photographs of materials that have been identified are provided in Appendix C.

4.1.1 Friable Asbestos Containing Materials

During our investigation, we did not find any friable asbestos containing materials based on bulk samples collected at the building.

4.1.2 Non-Friable Asbestos Containing Materials

During our investigation, we found non-friable asbestos containing materials based on bulk samples collected at the building.

- Black mastic contains up to 8% asbestos (samples COB2125-05A, COB2125-05B, COB2125-11A, COB2125-11B, COB2125-12A and COB2125-12B, Photo 2). This material was found under two layers of 12x12-inch vinyl floor tiles throughout the building. There are approximately 1,800 square feet of this Category I non-friable material present in the building. All black mastic, regardless of its locations, would need to be abated down to the concrete floor substrate.
- Mastic under ceramic floor tiles contains 2% asbestos (sample COB2125-13A, Photo 3). This material was found in the two restrooms. There are approximately 600 square feet of this Category I non-friable material present throughout the building. All mastic under all ceramic floor tiles, regardless of its location, would need to be abated down to the concrete floor substrate.

4.1.3 Asbestos Containing Construction Material and Assumed Asbestos Material

During our investigation, we found asbestos containing construction materials based on bulk samples collected at the building. We also assume asbestos containing roofing materials may be found on the roof.

- Tar underneath exterior paint contains less than 1% asbestos (samples COB2125-01A, and COB2125-01B, Photo 4). This material was found on the exterior CMU perimeter walls. If perimeter CMU is to be disturbed during current scope of renovations, then additional bulk sampling should be taken for confirmation. There are approximately 5,900 square feet of this not likely RACM present around the exterior of the building.
- Suspect roofing materials are assumed (not sample) to contain asbestos and should be sampled to prove otherwise. Roof survey should be conducted if current scope of work is expanded.

4.1.4 Regulated Asbestos Containing Materials

BAAQMD regulates air emissions from building renovation and demolition projects. This agency requires that materials with an asbestos content greater than 1% be removed before building renovation and demolition if they are either friable or the work will damage or otherwise render them friable. We did not find any RACMs at the Site. However, if mechanical method is utilized to remove floor mastics, then the removal is considered RACM. This will require 10-day advance notification to BAAQMD if more than 100 square feet or 100 linear feet of floor mastics are removed.

4.1.5 Non-Asbestos Containing Materials

Refer to Table 2 for materials sampled that do not contain asbestos for the Site.

4.2 Detailed Lead Findings and Discussion

The result of this investigation determined that lead-containing paint is present at the Site. Deteriorated leaded paint must be stabilized prior to renovation or demolition. Where inspected, we found paints to be intact at the building. As shown on Table 3 and Table 4, we representatively sampled paints and ceramic tiles to comply with Cal/OSHA and DTSC waste disposal regulations during construction.

Paints that contain more than 5,000 ppm lead are considered “lead-based paint” and if deteriorated are considered a “lead-hazard” by the CDPH. Paint chip wastes or material that contains more than 1,000 ppm lead would be classified as California hazardous wastes. Deteriorated paint wastes or materials that contain more than 50 ppm lead, but less than 1,000 ppm lead would need to be re-analyzed by the Soluble Threshold Limit Concentration (STLC) to determine soluble lead content and by the US EPA Total Concentration for Leachable Pollutants (TCLP) test to determine whether the paint or material is either a California or a Federal hazardous waste. If the soluble test(s) exceed 5.0 mg/L, then the waste would be characterized as “hazardous waste” (either California, federal or both). If ceramic tile contains greater than 50 ppm, then it should also be removed and tested for leachable lead per the STLC/TCLP methods, prior to demolition.

Any construction work that disturbs lead-based or lead-containing materials (including demolition) will need to be conducted in accordance with Cal/OSHA's lead in construction regulations (8CCR1532.1). These regulations apply paints and materials that contains any detectable amounts of lead. In theory, this should not pose a significant problem as this regulation has been in effect since 1992. Lead containing materials may require separate disposal if they contain more than 50 ppm lead. This rule does not apply for intact paint.

Cal/OSHA's lead in construction standard (8CCR1532.1) requires a contractor whose work involves disturbing lead-containing materials to develop and implement a lead compliance plan. The written lead compliance plan would essentially acknowledge the presence of lead and would describe procedures to minimize airborne lead exposures (e.g., use of dust control, clean up debris daily with a HEPA vacuum, and use good personal hygiene procedures, etc.) consistent with either assumed or known airborne lead exposures. Additionally, if the paint is disturbed (e.g., sanding or chipping), contractor is required to conduct employee exposure assessment to determine appropriate protective measures, including medical surveillance and personal hygiene facilities, and to provide employee training on the hazards of lead related work. Note that lead related work in public buildings that exceeds Cal/OSHA's permissible exposure limit requires that the training be accredited lead worker training.

4.2.1 Lead-Containing Paint and Ceramic Tiles

During our investigation, we found lead-containing paint and ceramic tile based on bulk samples collected.

- Exterior pink paint on concrete masonry unit contains 270 ppm lead. This paint is intact and does not require paint-stabilization.
- 4x4-inch beige with dots ceramic wall tile contains 310 ppm lead (sample COB2125-PB06, Photo 5). There are approximately 600 square feet that require removal and waste testing or disposal as a hazardous waste.

4.2.2 Non-Lead-Containing Paints and Ceramic Tiles

During our investigation, we found non-lead-containing paints (below detection limit) and ceramic tile (below waste threshold) based on bulk samples collected.

- Exterior pink paint on metal window louver contains lead concentrations less than the detection limit (less than 73 ppm). This paint is intact and does not require paint-stabilization.
- White paint on drywall contains lead concentrations less than the detection limit (less than 74 ppm). This paint is intact and does not require paint-stabilization.
- 1x1-inch brown and white ceramic floor tile contains lead concentrations less than the detection limit (less than 9.6 ppm). This tile is not required to be removed prior to renovation.
- 2x2-inch beige ceramic floor tile contains lead concentrations less than the detection limit (less than 9.5 ppm). This tile is not required to be removed prior to renovation.

4.3 Universal Hazardous Waste Findings and Discussion

DTSC has adopted regulations (SB 20 Electronic Waste Recycling Act) for the handling of universal waste or E-Waste. This category is a subset under all hazardous wastes. Universal wastes encompass a variety of electronic devices (including fluorescent lamps, light ballasts, sodium vapor lights, smoke detectors and emergency exit signs, mercury thermostats, cathode ray tubes, batteries, etc.) that usually contain mercury, lead, cadmium, chromium, and copper. These materials are considered toxic and are banned from landfill disposal. These materials must be collected and recycled prior to their disturbance during demolition. Fluorescent light tubes and mercury thermostats should be carefully removed without breaking and packaged for recycling.

Acumen visually assessed the Site and found fluorescent light fixtures that will require inspection and disposal as hazardous waste if they contain PCBs. The abatement contractor will need to assess ballasts and segregate those without the “No PCB” labeling for proper storage and disposal. The fluorescent light tubes are regulated because of their mercury content but these can be recycled instead of disposal as hazardous waste. Although recycling may be more expensive than disposal, it avoids the perpetual liability associated with the generation and disposal of hazardous wastes. Emergency exit signs contain batteries, which should be recycled as well.

4.3.1 Summary of Universal Hazardous Wastes

The following lists the universal hazardous wastes found during the investigation at the Site.

- Approximately 30 fluorescent light fixtures with assumed PCB ballasts were found throughout the building (Photo 6).
- Four (4) exit signs with batteries were found throughout the building.

5.0 Conclusions

Our investigation discovered non-friable asbestos containing materials (floor mastics), which will require abatement prior to renovation or demolition. Lead-containing paint and ceramic tile are present. Paint was found to be intact and thus paint-stabilization is not required. Ceramic tile requires removal prior to renovation to comply with environmental regulations pertaining to DTSC disposal regulations. Universal hazardous wastes will need to be removed and recycled or disposed as hazardous waste.

If the building was not demolished, the asbestos materials that would not be abated at this time would need to be managed under an Operations and Maintenance (O&M) program and disclosed to tenants and contractors (if the building is to remain in use). However, if the building is to be demolished additional sampling for suspect PCB materials is required based on recent regulations. The PCB survey must be consistent with the methods outlined in *Protocol for Evaluating Priority PCBs-Containing Materials before Building Demolition* as required by the Bay Area Stormwater Management Agencies Association (BASMAA, 2018). The regulation requires sampling for PCBs in “priority” building materials including caulking, sealants, gaskets, mastics, thermal insulation, paints and fiberglass.

6.0 Recommendations

6.1 ACMs/LCMs During Building Demolition or Renovations

1. Notify potential demolition or renovation contractors of the presence of ACMs at the Site. Disturbance of ACM requires special training and procedures. A Cal/OSHA registered asbestos contractor is required for ACM removals. BAAQMD regulations require that ACM be properly removed and disposed, prior to demolition or renovation where they would be disturbed. This work will require notification to the BAAQMD 10-days prior to removal if mechanical methods will be used to remove floor mastics.
2. Notify potential demolition or renovation contractors of the presence of intact lead-containing paints at the building. Disturbance of the paints requires compliance with Cal/OSHA’s lead in construction regulation.
3. Notify potential demolition or renovation contractors of the presence of lead-containing ceramic tile at Site. Disturbance of the tile requires compliance with Cal/OSHA’s lead in construction regulation. Waste that are more than 50 ppm lead but less than 1,000 ppm lead would need to be characterized by STLC/LCLP, to determine waste categorization.
4. If additional suspect materials were discovered during demolition or renovations, these materials should be sampled to confirm that they do not contain asbestos or lead prior to their removal.
5. The fluorescent lights and exit signs with batteries at Site will require dismantling and recycling. The fluorescent light ballasts may contain PCBs, which require inspection to determine proper waste disposal.
6. Since exterior paint on concrete masonry unit was found to contain less than 1% (trace) asbestos and point count analysis was not possible, additional bulk sample should be taken for confirmation.
7. Perform a roof survey at the Site to confirm roofing materials do not contain asbestos or lead. This sampling can be accomplished just prior to roof removal. Non-friable roofing abatement does not require the 10-day BAAQMD notification
8. Prior to submitting bids to perform abatement work, abatement contractors should field verify all the estimated quantity of ACM materials and other hazardous materials stated in this report.

9. Although there is no regulatory requirement for it, it would be advisable to develop either a work plan or specification for the handling of asbestos, lead, and hazardous materials during abatement.

7.0 Managing ACM/LBP in Place (For Portions to Remain)

1. If the building (of portions thereof) is not abated, the owner will need to notify building occupants and employees of the presence of asbestos, as required under California Health and Safety Code 25915.7-25919.7 (Connelly Bill) and by Cal/OSHA regulations. The materials have a low fiber release potential if it remains undisturbed. Notify contractor and maintenance employees of this report.
2. Prepare and implement an asbestos O&M program to manage ACMs that will remain in place. This asbestos O&M program should detail roles and responsibilities for managing ACM at the complex. The O&M program should establish written policies and procedures for asbestos safe work practices to minimize the potential for unauthorized disturbance of ACM, monitor the condition of ACM and respond to damage or deterioration of ACM, with the goal of preventing the release of airborne asbestos fibers. Implementation of the O&M program will require that facility employees receive annual asbestos training. The O&M program should remain in place as long as ACM remains in the buildings.
3. The California - Proposition 65 rules require posting a sign warning of potential hazards because of the presence of asbestos and lead.

8.0 Limitations

Reasonable effort was made by Acumen personnel to locate, and sample suspect hazardous building materials. However, for any facility or building, the existence of unique or concealed ACM or lead-containing materials, other hazardous building materials and debris is a possibility. Acumen does not warrant, guarantee, or profess to have the ability to locate or identify all ACM or other hazardous materials at this facility. The intent of this report is for use in planning, for demolition purposes. All quantities of materials identified in this report should be field verified by contractors prior to submitting bids to perform abatement work. Additional confirmatory sampling and detailed quantification may be required if the renovation work uncovers additional suspect materials. The report is not intended as a CDPH or HUD defined "lead hazard evaluation" or "lead inspection".

Acumen provided these services consistent with the level and skill ordinarily exercised by members of the profession currently providing similar services under similar circumstances at the time the services were provided. This statement is in lieu of other statements either expressed or implied. This report is intended for the sole use of the named client and their designees. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of certain other users, and use or re-use of this document, the findings, conclusions, or recommendations is at the risk of said user.

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of all conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for materials removal, further investigation or the need for modifications to the processes or procedures surveyed.

The client should recognize that all testing and remediation methods have reliability limitations, no method or number of sampling locations can guarantee that a condition will be discovered within the performance of the services as authorized by the client. Additionally, the passage of time may result in a change in the

environmental characteristics at this site. This report does not warrant against future operations or conditions that could affect the recommendations made. The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were observed during Acumen's inspection of the site.

Table 1

Asbestos Containing Material
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Results¹	BAAQMD²	EQ³	Sample No.
Exterior North Wall	Exterior Pink Paint on Concrete Masonry Unit	Paints: ND Tar: < 1% CH	Not Likely-RACM	5,900 SF	COB2125-01A
Exterior West Wall	Exterior Pink Paint on Concrete Masonry Unit	Paints: ND Tar: < 1% CH	Not Likely-RACM	See Above	COB2125-01B
Floor 1 Assembly Room	12x12" White with Gray Specks Vinyl Floor Tile with Black Mastic	Floor Tile: ND Mastic: 8% CH	Cat I NF	1,800 SF	COB2125-05A
Floor 1 Assembly Room	12x12" White with Gray Specks Vinyl Floor Tile with Black Mastic	Vinyl Floor Tile: ND Mastic: 3% CH	Cat I NF	See Above	COB2125-05B
Floor 1 - Storage Room	12x12" White with Blue Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: 2% CH	Cat I NF	See Above	COB2125-11A
Floor 1 - Locker Room	12x12" White with Blue Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: 2% CH	Cat I NF	See Above	COB2125-11B
Floor 1 - Storage Room	12x12" Blue with White Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: 3% CH	Cat I NF	See Above	COB2125-12A
Floor 1 - Locker Room	12x12" Blue with White Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: 2% CH	Cat I NF	See Above	COB2125-12B

Table 1 (continued)

Asbestos Containing Material
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Results ¹	BAAQMD ²	EQ ³	Sample No.
Floor 1 - Women's Restroom	1x1' Brown and White Ceramic Floor Tile with Grout and Mastic	Mastic: 2% CH	Cat I NF	600 SF	COB2125-13A
Roof	Roofing Materials	Assumed	TBD	TBD	N/A

Footnotes

1. Results report percent (%) asbestos as determined by polarized light microscopy (PLM). Samples that are marked Point Count were analyzed by EPA-600/R93-116 (1993) method as determined by PLM 400 Point Count method and are reported as percentage (%) asbestos. CH = Chrysotile asbestos; AC = Actinolite asbestos; TR = Tremolite asbestos; AM = Amosite asbestos; CR = Crocidolite; Trace = levels of asbestos is less than 1%; ND = no asbestos detected; and Assumed = material to contain asbestos unless proven otherwise.
2. BAAQMD indicates classification into friable as Regulated Asbestos Containing Material (RACM) or Category I (Cat I) or Category II (Cat II) Non-Friable. Depending on methods of removal Category I or II non-friable ACMs could become rendered into friable/RACM. BAAQMD classifications are non-applicable (N/A) for materials with results that are ND for asbestos.
3. EQ means estimated quantity either in square feet (SF), linear feet (LF), or each unit (EA). Estimated quantities are non-applicable (N/A) for materials with results that are ND for asbestos. Estimated quantities should be confirmed by an abatement contractor prior to bid or removal. TBD = To Be Determined.

Table 2

Non-Asbestos Containing Materials
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Results¹	Sample No.
Exterior East Wall	Exterior Gray Caulking Around Metal Window Louver	Caulking: ND Paint: ND	COB2125-02A
Exterior East Wall	Exterior Gray Caulking Around Window Louver	Caulking: ND Paint: ND	COB2125-02B
Exterior West Wall	Exterior Gray Caulking Around Window Louver	Caulking: ND Paint: ND	COB2125-02C
Exterior East Wall	Exterior Gray Caulking Around Metal Window Louver	Caulking: ND Paint: ND	COB2125-02D
Exterior East Wall	Exterior Pink Paint on Metal Window Louver	ND	COB2125-03A
Exterior East Wall	Exterior Pink Paint on Metal Window Louver	ND	COB2125-03B
Exterior - South Wall	Exterior Window Putty	ND	COB2125-04A
Exterior - South Wall	Exterior Window Putty	ND	COB2125-04B
Floor 1 Assembly Room	Black Base Board with Cream Mastic	Base Board: ND Mastic: ND Compound: ND	COB2125-06A
Floor 1 Assembly Room	Black Base Board with Cream Mastic	Base Board: ND Mastic: ND	COB2125-06B
Floor 1 Assembly Room	Drywall with Taping Mud	Drywall: ND Taping Mud: ND Tape: ND Paint: ND	COB2125-07A
Floor 1 - Locker Room	Drywall with Taping Mud	Drywall: ND Taping Mud: ND Paint: ND	COB2125-07B
Floor 1 - Locker Room	Drywall with Taping Mud	Drywall: ND Taping Mud: ND Paint: ND	COB2125-07C
Floor 1 - Assembly Room	Gray Under Sink Coating	ND	COB2125-08A

Table 2 (continued)

Non-Asbestos Containing Materials
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Results¹	Sample No.
Floor 1 - Assembly Room	White Paint on Concrete Masonry Unit	ND	COB2125-09A
Floor 1 - Assembly Room	Gray Paint on Concrete Masonry Unit	ND	COB2125-09B
Floor 1 - Men's Restroom	Gray Paint on Concrete Masonry Unit	Paints: ND	COB2125-09C
Floor 1 - Assembly Room	2x4' Lay in Ceiling Tile	Ceiling Tile: ND White Coating: ND	COB2125-10A
Floor 1 - Locker Room	2x4' Lay in Ceiling Tile	Ceiling Tile: ND White Coating: ND	COB2125-10B
Floor 1 - Storage Room	12x12" White with Blue Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: ND	COB2125-11A
Floor 1 - Locker Room	12x12" White with Blue Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: ND	COB2125-11B
Floor 1 - Storage Room	12x12" Blue with White Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: ND	COB2125-12A
Floor 1 - Locker Room	12x12" Blue with White Specks Vinyl Floor Tile with Second Vinyl Floor Tile Layer with Black Mastic	Floor Tile: ND Mastic: ND	COB2125-12B
Floor 1 - Women's Restroom	1x1" Brown and White Ceramic Floor Tile with Grout and Mastic	Ceramic Tile: ND Grout: ND	COB2125-13A
Floor 1 - Women's Restroom	1x1" Brown and White Ceramic Floor Tile with Grout and Mastic	Ceramic Tile: ND Grout: ND	COB2125-13A
Floor 1 - Men's Shower	2x2" Beige Ceramic Floor Tile with Grout and Mastic	Ceramic Tile: ND Mastic: ND	COB2125-14A
Floor 1 - Men's Restroom	4x4" Beige with Dots Ceramic Wall Tile with Grout and Mastic	Ceramic Tile: ND Grout: ND Mastic: ND	COB2125-15A

Footnote

1. Samples were analyzed by polarized light microscopy (PLM) and reported as not containing detectable amounts of asbestos. ND indicates that asbestos was not detected.

Table 3

Summary of Lead Paint Sample Results
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Result ¹	Condition ²	EQ ³	Sample No.
Exterior - North Wall	Exterior Pink Paint on Concrete Masonry Unit	270	Intact	N/A	COB2125-PB01
Exterior - East Wall	Exterior Pink Paint on Metal Window Louver	< 73	Intact	N/A	COB2125-PB02
Floor 1 - Assembly Room	White Paint on Drywall	< 74	Intact	N/A	COB2125-PB03

Footnote

1. Samples are analyzed by Flame Atomic Absorption Spectrometry (AAS). U.S. EPA SW-846 Method 7420 is used for the instrumental analysis. Nitric acid and hydrogen peroxide digestion procedures are based on U.S. EPA SW-846, 3rd edition. Results reported in milligram per kilogram (mg/kg) or parts per million (ppm). The "<" sign means below analytical detection limit.
2. Intact paint requires no lead-stabilization; deteriorated paint with greater than 50 ppm lead must be stabilized prior to demolition or renovation.
3. EQ means estimated quantity in square feet (SF). Estimated quantities should be confirmed by an abatement contractor prior to bid or removal. N/A = Lead-stabilization is not required.

Table 4

Summary of Lead TTLC Sample Results
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

November 5, 2021

Location	Material	Result ¹	EQ ²	Sample No.
Floor 1 - Women's Restroom	1x1" Brown and White Ceramic Floor Tile	< 9.6	N/A	COB2125-PB04
Floor 1 - Men's Restroom	2x2" Beige Ceramic Floor Tile	< 9.5	N/A	COB2125-PB05
Floor 1 - Men's Restroom	4x4" Beige with Dots Ceramic Wall Tile	310.0	600 SF	COB2125-PB06

Footnote

1. Samples are analyzed by Total Threshold Limit Concentration (TTLC) in accordance with EPA Methods 3050B for Acid Digestion (SW 846, 3rd edition, 2007) and 7420 for Analysis (SW-846, 3rd edition, 2007). Results reported in milligram per kilogram (mg/kg) or parts per million (ppm). The "<" sign means below analytical detection limit.
2. EQ means estimated quantity either in square feet (SF). Ceramic tile contains more than 1,000 ppm lead would be classified as California hazardous wastes. If ceramic tile or other material contains greater than 50 ppm lead but less than 1,000 ppm lead, then it should also be removed and tested for leachable lead per the STLC/TCLP methods, prior to demolition or renovation. Estimated quantities should be confirmed by an abatement contractor prior to bid or removal. N/A = Removal is not required.



ACUMEN

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

Appendix A

Laboratory Reports

City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

February 2021

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/08/2021

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #: COB2125-01A Micro #: 286775-01 Analyst: SS JM EXT NORTH WALL - EXT PINK PAINT ON CMU	PAINTS: ND TAR : < 1% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: BINDER TAR
Client #: COB2125-01B Micro #: 286775-02 Analyst: SS EXT WEST WALL - EXT PINK PAINT ON CMU	PAINTS: ND TAR : < 1% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: BINDER TAR
Client #: COB2125-02A Micro #: 286775-03 Analyst: SS EXT EAST WALL - EXT GRAY CAULKING AROUND METAL WINDOW LOUVER	CAULKING: ND PAINT: ND	2 % MISC. FIBERS NFM: CARBONATE, BINDER.
Client #: COB2125-02B Micro #: 286775-04 Analyst: SS EXT EAST WALL - EXT GRAY CAULKING AROUND WINDOW LOUVER	CAULKING: ND PAINT: ND	1 % MISC. FIBERS NFM: CARBONATE, BINDER.
Client #: COB2125-02C Micro #: 286775-05 Analyst: SS EXT WEST WALL - EXT GRAY CAULKING AROUND WINDOW LOUVER	CAULKING: ND PAINT: ND	1 % MISC. FIBERS NFM: CARBONATE, BINDER.

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/08/2021

SAMPLE IDENTIFICATION		ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS	DOMINANT OTHER MATERIALS
		If absent, ND is Reported (No Asbestos Detected)	
Client #:	COB2125-02D	CAULKING: ND PAINT: ND	1 % MISC. FIBERS NFM: CARBONATE, BINDER.
Micro #:	286775-06 Analyst: SS EXT EAST WALL - EXT GRAY CAULKING AROUND METAL WINDOW LOUVER		
Client #:	COB2125-03A	ND	NFM: OPAQUES BINDER
Micro #:	286775-07 Analyst: SS EXT EAST WALL - EXT PINK PAINT ON METAL WINDOW LOUVER		
Client #:	COB2125-03B	ND	NFM: OPAQUES BINDER
Micro #:	286775-08 Analyst: SS EXT EAST WALL - EXT PINK PAINT ON METAL WINDOW LOUVER		
Client #:	COB2125-04A	ND	1 % TALC NFM: CARBONATE, BINDER.
Micro #:	286775-09 Analyst: SS EXT - SOUTH WALL - EXT WINDOW PUTTY		
Client #:	COB2125-04B	ND	1 % TALC NFM: CARBONATE, BINDER.
Micro #:	286775-10 Analyst: SS EXT - SOUTH WALL - EXT WINDOW PUTTY		

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-800/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/08/2021

SAMPLE IDENTIFICATION		ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS	DOMINANT OTHER MATERIALS
		If absent, ND Is Reported (No Asbestos Detected)	
Client #:	COB2125-05A		
Micro #: 286775-11	Analyst: SS JM	FLOOR TILE: ND MASTIC: 8% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #:	COB2125-05B		
Micro #: 286775-12	Analyst: BK	VFT: ND MASTIC: 3% CHRYSOTILE ASBESTOS	NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #:	COB2125-06A		
Micro #: 286775-13	Analyst: BK	BASE BOARD: ND MASTIC: ND COMPOUND: ND	NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #:	COB2125-06B		
Micro #: 286775-14	Analyst: BK	BASE BOARD: ND MASTIC: ND	NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #:	COB2125-07A		
Micro #: 286775-15	Analyst: BK	DRYWALL: ND TAPING MUD: ND TAPE: ND PAINT: ND	10 % CELLULOSE 1 % FIBROUS GLASS NFM: GYPSUM (CALCIUM SULFATE), CARBONATE.

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM). Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In: **286775**
Total Samples: **36**
Date Sampled: **11/05/2021**
Date Received: **11/08/2021**
Date Analyzed: **11/08/2021**

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #: COB2125-07B		
Micro #: 286775-16 Analyst: BK FLOOR 1 - LOCKER ROOM - DRYWALL WITH TAPING MUD	DRYWALL: ND TAPING MUD: ND PAINT: ND	10 % CELLULOSE 1 % FIBROUS GLASS NFM: 'GYPSUM' (CALCIUM SULFATE), CARBONATE.
Client #: COB2125-07C		
Micro #: 286775-17 Analyst: BK FLOOR 1 - LOCKER ROOM - DRYWALL WITH TAPING MUD	DRYWALL: ND TAPING MUD: ND PAINT: ND	10 % CELLULOSE 1 % FIBROUS GLASS NFM: 'GYPSUM' (CALCIUM SULFATE), CARBONATE.
Client #: COB2125-08A		
Micro #: 286775-18 Analyst: BK BK FLOOR 1 - ASSEMBLY ROOM - GRAY UNDER SINK COATING	ND	10 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE.
Client #: COB2125-09A		
Micro #: 286775-19 Analyst: JM FLOOR 1 - ASSEMBLY ROOM - WHITE PAINT ON CMU	ND	 NFM: OPAQUES
Client #: COB2125-09B		
Micro #: 286775-20 Analyst: JM FLOOR 1 - ASSEMBLY ROOM - GRAY PAINT ON CMU	ND	 NFM: OPAQUES

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM). Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples **36**
Date Sampled **11/05/2021**
Date Received **11/08/2021**
Date Analyzed **11/09/2021**

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #: COB2125-09C Micro #: 286775-21 Analyst: SS FLOOR 1 - MEN'S RESTROOM - GRAY PAINT ON CMU	PAINTS: ND	NFM: OPAQUES BINDER
Client #: COB2125-10A Micro #: 286775-22 Analyst: SS FLOOR 1 - ASSEMBLY ROOM - 2 X 4 LAY IN CEILING TILE	CEILING TILE: ND COATING (WHITE): ND	15 % CELLULOSE 75 % MINERAL WOOL NFM: GLASS FRAGMENTS, BINDER.
Client #: COB2125-10B Micro #: 286775-23 Analyst: SS FLOOR 1 - LOCKER ROOM - 2 X 4 LAY IN CEILING TILE	CEILING TILE: ND COATING (WHITE): ND	15 % CELLULOSE 75 % MINERAL WOOL NFM: GLASS FRAGMENTS, BINDER.
Client #: COB2125-11A Micro #: 286775-24A Analyst: SS FLOOR 1 - STORAGE ROOM - 12 X 12 WHITE WITH BLUE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC <i>LAB NOTE: FLOOR TILE (BLUE) AND MASTIC (YELLOW)</i>	FLOOR TILE: ND MASTIC: ND	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #: COB2125-11A Micro #: 286775-24B Analyst: SS JM FLOOR 1 - STORAGE ROOM - 12 X 12 WHITE WITH BLUE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC <i>LAB NOTE: FLOOR TILE (WHITE) AND MASTIC (BLACK)</i>	FLOOR TILE: ND MASTIC: 2% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/09/2021

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #: COB2125-11B		
Micro #: 286775-25A Analyst: SS BK FLOOR 1 - LOCKER ROOM - 12 X 12 WHITE WITH BLUE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (BLUE) AND MASTIC (YELLOW)	FLOOR TILE: ND MASTIC: ND	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #: COB2125-11B		
Micro #: 286775-25B Analyst: SS FLOOR 1 - LOCKER ROOM - 12 X 12 WHITE WITH BLUE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (WHITE) AND MASTIC (BLACK)	FLOOR TILE: ND MASTIC: 2% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #: COB2125-12A		
Micro #: 286775-26A Analyst: SS FLOOR 1 - STORAGE ROOM - 12 X 12" BLUE WITH WHITE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (BLUE) AND MASTIC (YELLOW)	FLOOR TILE: ND MASTIC: ND	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #: COB2125-12A		
Micro #: 286775-26B Analyst: SS FLOOR 1 - STORAGE ROOM - 12 X 12" BLUE WITH WHITE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (WHITE) AND MASTIC (BLACK)	FLOOR TILE: ND MASTIC: 3% CHRYSOTILE ASBESTOS	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #: COB2125-12B		
Micro #: 286775-27A Analyst: SS FLOOR 1 - LOCKER ROOM - 12 X 12" BLUE WITH WHITE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (BLUE) AND MASTIC (YELLOW)	FLOOR TILE: ND MASTIC: ND	1 % CELLULOSE NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.

Technical Supervisor:

11/9/2021

Baojia Ke, Ph.D.

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BERKELEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/09/2021

SAMPLE IDENTIFICATION		ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS	DOMINANT OTHER MATERIALS
		If absent, ND is Reported (No Asbestos Detected)	
Client #:	COB2125-12B	FLOOR TILE: ND MASTIC: 2% CHRYSOTILE ASBESTOS	1 % CELLULOSE
Micro #: 286775-27B Analyst: SS FLOOR 1 - LOCKER ROOM - 12 X 12" BLUE WITH WHITE SPECKS VFT WITH 2ND VFT LAYER WITH BLACK MASTIC LAB NOTE: FLOOR TILE (WHITE) AND MASTIC (BLACK)			NFM: SYNTHETIC MATERIAL, CARBONATE, ADHESIVE.
Client #:	COB2125-13A	CERAMIC TILE: ND GROUT: ND	NFM: CERAMIC
Micro #: 286775-28A Analyst: SS BK FLOOR 1 - WOMEN'S RESTROOM - 1 X 1" BROWN AND WHITE CFT WITH GROUT AND MASTIC LAB NOTE: WHITE CERAMIC TILE & GROUT			
Client #:	COB2125-13A	CERAMIC TILE: ND GROUT: ND	NFM: CERAMIC
Micro #: 286775-28B Analyst: SS FLOOR 1 - WOMEN'S RESTROOM - 1 X 1" BROWN AND WHITE CFT WITH GROUT AND MASTIC LAB NOTE: BROWN CERAMIC TILE & GROUT			
Client #:	COB2125-13A	MASTIC: 2% CHRYSOTILE ASBESTOS	NFM: CERAMIC
Micro #: 286775-28C Analyst: SS JM FLOOR 1 - WOMEN'S RESTROOM - 1 X 1" BROWN AND WHITE CFT WITH GROUT AND MASTIC LAB NOTE: LOOSE MASTIC			
Client #:	COB2125-14A	CERAMIC TILE: ND MASTIC: ND (NO GROUT IN THE SAMPLE)	NFM: CERAMIC
Micro #: 286775-29 Analyst: SS BK FLOOR 1 - MEN'S SHOWER 2 X 2 " BEIGE CFT WITH GROUT AND MASTIC			

Technical Supervisor: 

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Laboratory results are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1092
Paul Spillane
Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:
PROJECT NO. COB 2125
BEREKLEY CORPORATION
YARD - BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286775**
Total Samples 36
Date Sampled 11/05/2021
Date Received 11/08/2021
Date Analyzed 11/09/2021

SAMPLE IDENTIFICATION**ASBESTOS QUANTITY (AREA %) / TYPES / LAYERS****DOMINANT
OTHER MATERIALS**

If absent, ND Is Reported (No Asbestos Detected)

Client #:	COB2125-15A		
Micro #: 286775-30	Analyst: SS BK	CERAMIC TILE: ND GROUT: ND MASTIC: ND	NFM: CERAMIC
FLOOR 1 - MEN'S RESTROOM - 4 X 4 " BEIGE WITH DOTS CWT WITH GROUT AND MASTIC			

Technical Supervisor:

Baojia Ke, Ph.D.

11/9/2021

Date Reported

NVLAP Lab Code 101872-0 (TESTING). Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow EPA - Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (originally published 1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. NFM = Non-fibrous materials.



280775

ACUMEN

BULK CHAIN OF CUSTODY FORM

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2218

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

Project No. COB 2125

Location: Berkeley Corporation Yard - Building B Laboratory: Micro Analytical Laboratories, Inc.

Address: 1326 Allston Way, Berkeley, CA Turnaround: ☒ Normal ☐ 24 Hour ☐ Rush

Sampling Date: 11/5/2021

Collection By: Tam Pham

Sample No.	Floor	Location	Description	Method
COB 2125 - 01A	Ext	North wall	Ext pink paint on CMU	PLM Ashes
01B		West wall		
02A		East wall	Ext gray caulking around metal window louver	
02B			Ext gray caulking around window	
02C		West wall		
02D		East wall	Ext gray caulking around metal window louver	
03A			Ext. pink paint on metal window louver	
03B				
04A		South wall	Ext window putty	
04B				

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:	Received By:
Date Submitted: 11/8/2021	Date Received: 11/8/21 2:21pm

Sample(s) Submitted Via: ☒ Hand Delivered ☐ Federal Express (Air Bill # _____) ☐ Other: _____

11/8



ACUMEN

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2216

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

BULK CHAIN OF CUSTODY FORM

286755

Project No.

COB 2125

Location:

<SAME>

Address:

Sampling Date:

11/5/2021

Laboratory:

Micro Analytical Laboratories, Inc.

Turnaround:



Normal



24 Hour



Rush

Collection By:

Tam Pham

	Sample No.	Floor	Location	Description	Method
11	COB2125-05A	1	Assembly Room	12X12" white w/ gray specks NFT w/ black mastic	PLM Atch 5
12	05B	1			
13	06A	1		Black baseboard w/ cream mastic	
14	06B	1			
15	07A	1		2 Drywall w/ taping mud	
16	07B	1	Locker Rm	Drywall w/ taping mud	
17	07C	1			
18	08A	1	Assembly Room	gray under sink coating	
19	09A	1		white paint on CMU	
20	09B	1	Locker Room	gray	

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:

[Signature]

Received By:

[Signature]

Date Submitted:

11/8/2021

Date Received:

11/11/21 2:20pm

Sample(s) Submitted Via:



Hand Delivered



Federal Express (Air Bill #



Other:



280755

ACUMEN

BULK CHAIN OF CUSTODY FORM

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2216

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

Project No. COB 2125

Location:

<SAME>

Address:

Laboratory: Micro Analytical Laboratories, Inc.

Turnaround: ☒ Normal ☐ 24 Hour ☐ Rush

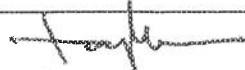
Sampling Date: 11/5/2021

Collection By: Tam Pham

	Sample No.	Floor	Location	Description	Method
21	COB2125-07C	1	Men's Restroom	gray paint ON CMU	PCM Ashes
22	10A	1	Assembly Room	2X4' Layin ceiling tile	
23	10B	1	Locker Room		
24	11A	1	Storage Room	12X12" white w/ blue specks VFT w/ 2nd VFT layer w/ black mastic	
25	11B	1	Locker Room		
26	12A	1	Storage Room	12X12" white blue w/ white specks VFT w/ 2nd VFT layer w/ black mastic	
27	12B	1	Locker Room		
28	13A	1	Women's Restroom	1X1" brown + white CFT w/ grout + mastic	
29	14A	1	Men's shower	2X2" Beige CFT w/ grout + mastic	
30	15A	1	Men's Restroom	4X4" Beige w/ dots CWT w/ grout + mastic	

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By: 	Received By: 
Date Submitted: 11/8/2021	Date Received: 11/9/21 2:40pm

Sample(s) Submitted Via: ☒ Hand Delivered ☐ Federal Express (Air Bill # _____) ☐ Other: _____

MICRO ANALYTICAL LABORATORIES, INC.

LEAD IN PAINT - FLAME AAS (SW846)



1092

Paul Spillane

Acumen Industrial Hygiene, Inc.

1032 Irving Street, #922

San Francisco, CA 94122-2216

PROJECT:

PROJECT NO. COB2125

BERKELEY CORPORATION

YARD - BUILDING B

1326 ALLSTON WAY

BERKELEY, CA

Micro Log In 286776

Total Samples 3

Date Sampled 11/05/2021

Date Received 11/08/2021

Date Analyzed 11/08/2021

Sample ID	Weight Percent	Lead Concentration mg/kg (ppm)	RDL
Client: COB2125-PB01 Lab: 286776-01 EXT - NORTH WALL EXTV PINK PAINT ON CMU	0.027 %	270	0.0072 % 72 mg/kg
Client: COB2125-PB02 Lab: 286776-02 EXT - EAST WALL EXT PINK PAINT ON METAL WINDOW LOUVER	< 0.0073 %	< 73	0.0073 % 73 mg/kg
Client: COB2125-PB03 Lab: 286776-03 FLOOR 1 - ASSEMBLY ROOM WHITE PAINT ON DRYWALL	< 0.0074 %	< 74	0.0074 % 74 mg/kg

Technical Supervisor:

Long T. Nguyen, Chemistry Supervisor

11/8/2021

Date Reported

Analyst:

TLN

AIHA-LAP, LLC Accredited Laboratory; ID #101768. Samples are analyzed by Flame Atomic Absorption Spectrometry (AAS) using SOP 23-Paint. This SOP is based on U.S. EPA SW-846 Method 7420 for instrumental analysis, and on ASTM E-1645-16 for nitric acid and hydrogen peroxide digestion. Unless otherwise indicated on this report, all required Quality Control samples have been determined to be in control prior to releasing these analytical results. Unless otherwise stated in this report, all samples were received in acceptable condition for analysis. Note: due to software limitations, the number of reported significant figures does not necessarily reflect the uncertainty of the analysis. If the amount of sample available for analysis is lower than advisable for this method, detection limits and uncertainty will be higher. This report must not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. Unit explanations: mg = milligrams; kg = kilograms; ppm = parts per million. N/A = Not Applicable. RDL = Report Detection Limit.



ACUMEN

INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2218

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

BULK CHAIN OF CUSTODY FORM

280755
(AA-PAINT) 280776

Project No.

COB 2125

Location:

<SHALE>

Address:

Sampling Date:

11/5/2021

Laboratory:

Micro Analytical Laboratories, Inc.

Turnaround:



Normal



24 Hour



Rush

Collection By:

Tam Pham

Sample No.	Floor	Location	Description	Method
COB2125- Pb01	EXT	North Wall	EXT pink paint on CMU	FLAA LEAD
Pb02	1	East Wall	EXT pink paint on metal window louver	
Pb03	1	Assembly Room	white paint on drywall	
Pb04	1	women's Restroom	1x1" Brown + white CFT	TCLC LEAD
Pb05	1	Men's showers	2x2" Beige CFT	
Pb06	1	Men's Restroom	4x4" Beige w/dots CWT	

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:

Date Submitted:

11/8/2021

Received By:

Date Received:

11/8/21 02:20

Sample(s) Submitted Via:



Hand Delivered



Federal Express (Air Bill #



Other:

MICRO ANALYTICAL LABORATORIES, INC.**EPA SW-846 LEAD-TTLC**

1092

Paul Spillane

Acumen Industrial Hygiene, Inc.
1032 Irving Street, #922
San Francisco, CA 94122-2216

PROJECT:

PROJECT NO. COB2125
BERKELEY CORPORATION
YARD- BUILDING B
1326 ALLSTON WAY
BERKELEY, CA

Micro Log In **286777**Total Samples **3**Date Sampled **11/05/2021**Date Received **11/08/2021**Date Analyzed **11/08/2021**

Sample ID	Lead Concentration, ppm	RDL, ppm	Comments
Client COB2125-PB04 Micro 286777-01 FLOOR 1 - WOMEN'S RESTROOM 1' X1' BROWN AND WHITE CFT	< 9.6	9.6	
Client COB2125-PB05 Micro 286777-02 FLOOR 1 - MEN'S RESTROOM 2' X 2' BEIGE CFT	< 9.5	9.5	
Client COB2125-PB06 Micro 286777-03 FLOOR 1 - MEN'S RESTROOM 4' X4' BEIGE WITH DOTS CWT	310	18	

Technical Supervisor: _____

Long T. Nguyen, Chemistry Supervisor

11/8/2021

Date Reported

Analyst: **TLN**

AIHA-LAP LLC ELLAP Accredited Laboratory, ID #101768. Samples are analyzed by Flame Atomic Absorption Spectrometry (FLAA) using SOP 23-Soil (in accordance with EPA Methods 3050B for Acid Digestion (SW 846, 3rd edition, 2007) and 7420 for Analysis (SW-846, 3rd edition, 2007)). NOTE: Water samples are analyzed by FLAA in accordance with Method 3111B (Standard Methods for the Examination of Water and Wastewater, 18th edition). Unless otherwise indicated on this report, all required Quality Control samples have been determined to be in control prior to releasing these analytical results. Unless otherwise stated in this report, all samples were received in acceptable condition for analysis. Note: due to software limitations, the number of reported significant figures does not necessarily reflect the uncertainty of the analysis. This report must not be reproduced except in full without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed as received. Unit explanations: mg = milligrams; kg = kilograms; ppm = parts per million. TTLC = TOTAL THRESHOLD LIMIT CONCENTRATION. L = liters. RDL = Report Detection Limit. Note: mg / Kg is the same as ppm for solids, and mg/L is the same as ppm for water.

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INDUSTRIAL HYGIENE INC

1032 IRVING STREET #922 SAN FRANCISCO CA 94122-2216

TEL 415 242 6060 FAX 415 242 6006

WWW.ACUMEN-IH.COM

BULK CHAIN OF CUSTODY FORM

Project No.

COB 2125

Location:

Address:

Sampling Date: 11/5/2021

Laboratory: Micro Analytical Laboratories, Inc.

Turnaround: ☒ Normal ☐ 24 Hour ☐ Rush

Collection By: Tam Pham

Sample No.	Floor	Location	Description	Method
31 COB2125-Pb01	EXT	North Wall	EXT pink paint on CMU	FLAA LEAD
32 Pb02		East Wall	EXT pink paint on metal window louver	
33 Pb03	1	Assembly Room	white paint on drywall	
1 34 Pb04	1	women's Restroom	1x1" Brown + white CFT	TTLc LEAD
2 35 Pb05	1	Men's Shower	2x2" Beige CFT	
3 36 Pb06	1	Men's Restroom	4x4" Beige w/dots CWT	

Other Instructions: Email results to lab@acumen-ih.com.

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports.

Sent By:	Received By:
Date Submitted: 11/8/2021	Date Received: 11/8/21 12:20

Sample(s) Submitted Via: ☒ Hand Delivered ☐ Federal Express (Air Bill # _____) ☐ Other: _____



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Appendix B

Sample Location Floor Plans

City of Berkeley Corporation Yard

Assembly Building

1326 Allston Way

Berkeley, CA

February 2021



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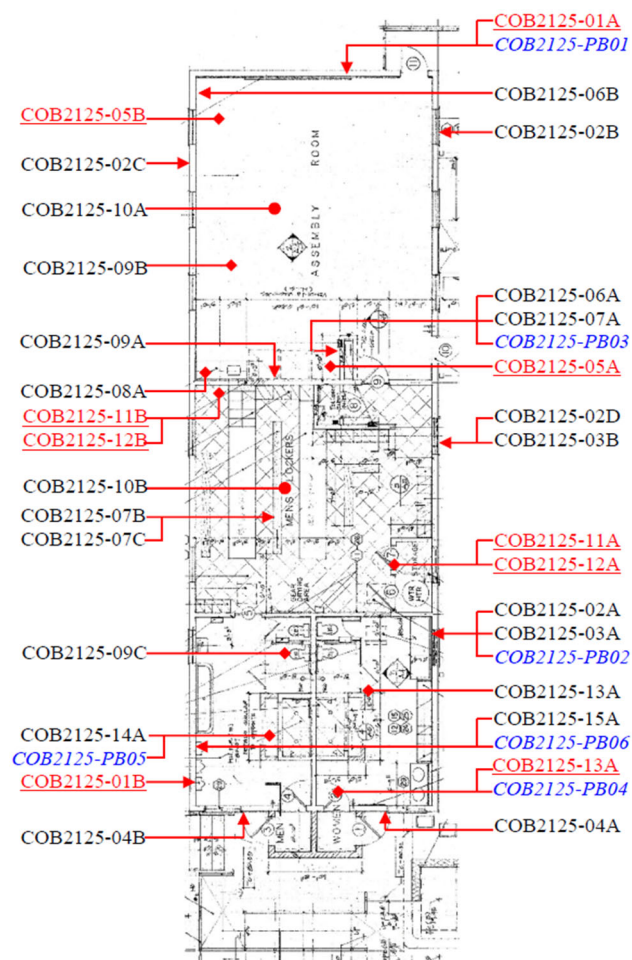
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1032 IRVING STREET #922
SAN FRANCISCO CA 94122
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Project
City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

Project No.	Date
COB 2125	11/05/2021

Location
Assembly Building

Level
Ground Floor



- Vertical Sample
 - Floor Sample
 - Ceiling Sample
 - Asbestos Containing Material
 - Lead Sample
- * Floor plan is not to scale.





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Appendix C

Photographs

City of Berkeley Corporation Yard
Assembly Building
1326 Allston Way
Berkeley, CA

February 2021



Photo 1

1326 Allston Way, Berkeley, CA – Berkeley Corporation Yard Assembly Building.



Photo 2

Black mastic contains up to 8% asbestos under two layers of vinyl floor tiles.



Photo 3

Mastic under ceramic floor tiles contains 2% asbestos that was found in restrooms.



Photo 4

Tar underneath exterior paint contains less than 1% asbestos. Additional bulk sampling should be taken for confirmation and point count.



Photo 5

4x4-inch beige with dots ceramic wall tile contains 310 ppm lead.



Photo 6

Fluorescent light fixtures with assumed PCB ballasts.