ASBESTOS AND LEAD PAINT SURVEY
HAZARDOUS MATERIAL BRIDGE INSPECTIONS 2024
P083-22-013 – TASK ORDER 08
BRIDGE B-303 (Truckee River – Downtown Reno)
KLEINFELDER PROJECT NO. 20232595.008A

September 16, 2024

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

A Report Prepared for:

Mr. Robert Piekarz
Hazardous Materials Supervisor, Environmental Division
Nevada Department of Transportation
1263 South Stewart Street
Carson City, NV 89712

ASBESTOS AND LEAD PAINT SURVEY
HAZARDOUS MATERIAL BRIDGE INSPECTIONS 2024
P083-22-013 – TASK ORDER 08
BRIDGE B-303 (Truckee River – Downtown Reno)

Prepared by:

Daniel Prado
Assistant Director, Reno Office
Forensic Analytical Consulting Services

Reviewed by:

Chris Chipponeri
Director, Central Valley Offices
Forensic Analytical Consulting Services

KLEINFELDER
707 17th Street, Suite 3000
Denver, Colorado 80202
Phone: 303.237.6601

September 12, 2024
Kleinfelder Project No.: 20232595.008A

KLEINFELDER
Bright People. Right Solutions.

TABLE OF CONTENTS

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

LIST OF ACRONYMS

AAC	Asbestos Abatement Consultant
AAS	Atomic Absorption Spectroscopy
ACBM	Asbestos-Containing Building Material
ACCM	Asbestos-Containing Construction Material
ACM	Asbestos-Containing Material
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
CFR	Code of Federal Regulation
DIR	Department of Industrial Relations
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency (EPA)
FACS	Forensic Analytical Consulting Services, Inc.
ICP	Inductively Coupled Plasma
LCP	Lead-Containing Paint
LBP	Lead-Based Paint
ND	None Detected
NESHAP	National Emissions Standard Hazardous Air Pollutants
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Science and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
PCM	Phase Contrast Microscopy
PLM	Polarized Light Microscopy
SGS	SGS - Forensic Laboratories
TCLP	Toxic Characteristic Leaching Procedure
TEM	Transmission Electron Microscopy
TTLC	Total Threshold Limit Concentration
XRF	X-Ray Fluorescence Spectrum Analyzer
<	Less Than Reporting Limit

1 EXECUTIVE SUMMARY

Forensic Analytical Consulting Services, Inc. (FACS) was retained by the Nevada Department of Transportation (NDOT) to perform an asbestos and lead paint survey at the B-303 bridge structure (Truckee River – Downtown Reno). The survey was to include any suspect asbestos-containing materials (ACM) and suspect lead-containing paints and coatings which may be disturbed during any upcoming projects; however, it must be noted that this survey was limited due to access restrictions and additional suspect materials may exist in areas of the bridge that were inaccessible. A summary list of suspect asbestos-containing materials which were identified and sampled is included in Appendix A of this report. A table reporting suspect lead-containing paints or coatings which were identified and sampled is included in Appendix B of this report. The survey was performed on August 9, 2024.

1.1 ASBESTOS

The following suspect materials were sampled during this survey and identified to **not contain** asbestos by laboratory analysis:

- Asphalt
- Cementitious Coating
- Concrete (Abutment)
- Concrete (Parapet)
- Concrete (Sidewalk)
- Parapet Sealant – White
- Sidewalk Sealant – Black
- Sidewalk Sealant – White
- Sealant – White

Please see Appendix A for a complete listing of materials sampled at the work areas and results from this survey.

As noted above, certain areas of the bridge structure were inaccessible, namely the underside of the bridge deck, metal supports, and roadway. No additional suspect materials were observed visually during this survey; however, it is known that certain materials (i.e. deck sheathing) are most likely to be present but not visible.

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

If any other suspect materials are discovered during future work, they must be assumed to be asbestos-containing materials until tested and proven not to contain asbestos.

1.2 LEAD

The following paint was found to be **lead-containing** by XRF analysis:

- Black Paint on Metal Light Post

The following paints/coatings did not contain detectable concentrations of lead above the laboratory's reporting limit:

- Black Paint on Concrete Sidewalk
- Red Paint on Concrete Curb
- White Paint on Concrete Curb
- Yellow Paint on Concrete Curb

As noted above, certain areas of the bridge structure were inaccessible. The following paints were observed visually during this survey but not sampled and must be handled as lead-containing unless sampled to confirm lead-content:

- Grey Paint on Concrete Abutment
- White Paint Striping on Asphalt Road
- Yellow Paint Striping on Asphalt Road

Any paints not included in the survey, or paints with results of 0.00 mg/cm² by XRF analysis without confirming representative laboratory result, must be handled as lead-based unless sampled and proven otherwise.

FACS recommends that the results of this report be incorporated into any upcoming project plans provided for this project for informational purposes.

2 INTRODUCTION

Forensic Analytical Consulting Services, Inc. (FACS) was retained by the Nevada Department of Transportation (NDOT) to perform an asbestos and lead paint survey at the B-303 bridge structure (Truckee River – Downtown Reno). The survey was to include any suspect asbestos-containing materials (ACM) and suspect lead-containing paints and coatings which may be disturbed during any upcoming projects; however, it must be noted that this survey was limited due to access restrictions and additional suspect materials may exist in areas of the bridge that were inaccessible. The survey was performed on August 9, 2024.

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

3 SCOPE OF WORK

The purpose of this survey was to identify asbestos-containing materials (ACMs) and lead-containing paints and coatings which may be disturbed during bridge repairs, modifications, or other work. The visual inspection, bulk sampling, and survey documentation were performed by Zachary Ramos of FACS. Mr. Ramos is licensed by the Division of Industrial Relations (DIR) as an Asbestos Abatement Consultant (AAC) and is a US EPA-accredited Asbestos Hazard Emergency Response Act (AHERA) Building Inspector. Mr. Ramos is also a US EPA Certified Lead Inspector / Assessor. The scope of the survey and the services included:

- Performing a visual inspection of the bridge structure to identify accessible suspect asbestos-containing materials (ACMs) and lead-containing paints and coatings that will be disturbed during any upcoming projects;
- Collection of bulk material samples for asbestos laboratory analysis by polarized light microscopy (PLM);
- Performance of a lead paint survey using a SciAps x-ray fluorescence (XRF) spectrum analyzer;
- Collection of bulk paint chip samples for lead laboratory analysis using atomic absorption spectrometry (AAS);
- Ensuring the technical quality of all work by using Asbestos Hazard Emergency Response Act (AHERA) accredited Building Inspector;
- Ensuring the technical quality of all work by using an US EPA Certified Lead Inspector/Assessor; and
- Consolidating data and findings into a report format.

4 SITE CHARACTERIZATION

Bridge B-303 spans the Truckee River in downtown Reno on Sierra Street. The bridge is constructed of concrete including abutments, parapets, and deck overlaid with asphalt.

Suspect materials observed during this survey included various sealants, cementitious coatings, and various types of concrete.

Paints observed included grey paints on concrete components, black paint on metal light posts, and yellow and white striping on the asphalt roadway. Red, white, and yellow paints were also observed on concrete curbs.

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

5 SURVEY METHODS

5.1 DOCUMENT REVIEW

No previous documentation was reviewed prior to the survey. The extent of the planned survey project was provided by Robert Piekarz, Hazardous Materials Supervisor, Environmental Division for NDOT.

5.2 VISUAL INSPECTION

Accessible building materials were visually inspected using the methods presented in the Federal AHERA regulations (40 CFR, Part 763). AHERA inspection methodology is required to be used for inspections of K-12 schools and is generally accepted as the industry standard for all ACM inspections regardless of structure or facility type. Suspect ACMs were also physically assessed for friability, condition and possible disturbance factors. In addition, samples were collected following ASTM standards for inspections as required by Northern Nevada Public Health's Air Quality Management Division.

Various areas of the bridge structure were inaccessible during this survey. They included the underside of the bridge deck, metal supports, and roadway.

5.3 ASBESTOS INSPECTION

5.3.1 Bulk Sample Collection

Bulk samples of identified homogeneous materials were collected in areas of the structure that may be impacted by renovation/demolition activities. Samples were collected of each separate homogeneous area. A homogeneous area is defined as a surfacing material, thermal system insulation, or miscellaneous material that is uniform in use, color, and texture.

The specific number of samples collected was determined by using the methods required by the Federal AHERA regulations (40 CFR, Part 763.86) and ASTM standards as noted below:

1) For Surfacing Material:
    - 1,000 ft^2 or less - collect three samples,
    - 1,001 to 5,000 ft^2 - collect five samples, and
    - 5,001 ft^2 or greater - collect seven samples.
2) For Thermal System Insulation:
    - "In a randomly distributed manner" - collect three samples,
    - Six linear feet of patching or less - collect one sample, and
    - Cementitious pipe fittings - "in a manner sufficient to determine."
3) For all Miscellaneous Material:
    - Collect samples "in a manner sufficient to determine whether material is ACM (asbestos-containing material) or not ACM."
    - Collect "a minimum of three bulk samples shall be collected of each homogeneous miscellaneous material, except that a single sample may suffice for small, manufactured items such as HVAC vibration dampeners, gaskets, and friction products. This exception applies to individual components of less than six ft^2 (0.557 m2) in size and not to multiple installations of similar components." ASTM E2356 – 18 Standard.

Suspect ACMs were sampled using a knife, chisel, scraper, drill, or other similar coring device suitable to the type of material sampled to cut through its entire thickness and to ensure that a cross-section of the material was obtained. The material was then placed in an appropriately labeled container that was sealed and submitted to SGS-Forensic Laboratories for analysis. A unique sample number (e.g. PJ79498-01A) was assigned to each sample.

Bulk samples will be retained by the laboratory for one month unless otherwise instructed. After this period, the samples will be disposed of appropriately.

5.3.2 Bulk Sample Analysis

A total of twenty-five (25) bulk samples were collected from a total of nine (9) suspect materials. Bulk samples were analyzed by SGS-Forensic Laboratories (SGS) in Hayward, California. SGS is accredited by the National Institute of Science and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP). SGS participates in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program and has substantial experience in the analysis of asbestos.

All samples were analyzed using Polarized Light Microscopy with Dispersion Staining (PLM/DS) techniques in accordance with the methodology approved by the U.S. Environmental Protection Agency (EPA). The percentage of asbestos present in the samples was determined on the basis of a visual area estimation. The EPA defines asbestos-containing materials (ACM) as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM). 40 CFR Part 763 identifies the lower limit of reliable quantification for asbestos using the PLM method as approximately one percent (1%) by volume. The PLM method is the standard method used to analyze asbestos bulk samples.

When "None Detected" (ND) appears in the laboratory results, it should be interpreted as meaning asbestos was not observed in the sample material.

5.4 LEAD INSPECTION

The client-defined lead inspection was modeled upon the sampling protocol described in “Chapter 7: Lead Based Paint Inspection” of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision).

OSHA, in Title 29 Code of Federal Regulations (CFR) Part Number 1926, Standard Number 1926.62, regulates all construction work where an employee may be occupationally exposed to lead. Paints, coatings, or materials with any detectable level of lead is considered lead-containing by OSHA. Paints or coatings containing lead above 1.0 mg/cm^2, 0.5% by weight, or 5,000 parts per million are considered lead-based by the US EPA.

5.4.1 XRF Testing Methodology

Surfaces and components were surveyed for lead content utilizing a portable X-ray fluorescence (XRF) analyzer, SciAps X-550Pb, serial number 01149. The XRF analyzer contains an electrically powered x-ray cathode source which bombards tested surfaces with X-rays and gamma rays. This external energy source excites any lead atoms within the tested paint or coating, causing their atoms to emit X-ray photons with a characteristic energy profile. The instrument analyzes the emitted energy to identify and quantify the amount of lead in the tested paint or coating, with lead content reported in milligrams per square centimeter.

Testing combinations of homogeneous components in one area are representative of similar components found in other areas with similar construction and painting histories. During this survey, the inspector visually identified the painted or coated component to test, an XRF reading was collected, and the reading was documented in the XRF data table contained in Appendix B. For each test reading, the data table identifies the room equivalent/space designation, the tested component name, the substrate material, the sample location, paint/coating color, condition assessment, and the XRF result expressed as lead content by weight in milligrams per square centimeter (mg/cm^2).

5.4.2 Bulk Sampling Methodology

During this inspection, FACS personnel collected four (4) bulk paint chip samples for laboratory confirmation of lead-content. Each sample was scraped from the substrate it had been applied to using a knife or chisel to obtain sufficient material for analysis. Each sample was given a unique marker number, identified on a chain-of-custody, packaged, and sent via FedEx to SGS in Hayward, California for analysis. SGS is accredited by the American Industrial Hygiene Association's Environmental Lead Laboratory Accreditation Program for the analysis of lead in bulk paint chips by flame atomic absorption.

6 REGULATIONS

6.1 BACKGROUND

Asbestos is the name of a class of magnesium-silicate minerals that occur in fibrous form. Minerals that are included in this group are chrysotile, crocidolite, amosite, anthophyllite asbestos, tremolite asbestos, and actinolite asbestos. Although the chrysotile minerals are the most common type of asbestos found in the construction industry, all types of asbestos are regulated in the same manner. Asbestos has been used in more than 3,000 different building materials. Asbestos was added to building materials to increase fire-resistance, insulate against heat, cold and sound, resist corrosion, and increase tensile strength. Common building materials that may contain asbestos include but are not limited to the following: floor tile, resilient sheet flooring, ceiling tile, mastics, roofing materials, fireproofing, acoustical treatments, wallboard, pipe, and boiler insulations. Adverse health effects have been associated with the inhalation of airborne asbestos. However, asbestos fibers that are tightly bound in the building material, may not represent an exposure hazard, unless disturbed in such a way that releases airborne fibers (i.e., cutting, drilling, sanding, and other abrasive methods).

6.2 BUILDING SURVEYS

The following is a summary of some current Federal and State regulations which contain requirements related to the performance of building surveys for asbestos. These summaries are not intended to be all inclusive and do not contain every aspect of the regulations discussed.

6.2.1 U.S. EPA National Emission Standard for Hazardous Air Pollutants (NESHAPs), 40 CFR Part 61

Under the NESHAPs regulation, no visible emissions are allowed during building demolition or renovation activities which involve regulated asbestos-containing materials. For this reason, all buildings must be surveyed for asbestos-containing materials prior to demolition or renovation. The EPA, CARB, and/or the local Air Quality Management District which implements EPA actions, must be notified prior to any building demolition even if no asbestos-containing materials are present. Regulated asbestos-containing material (RACM) is defined as a) any friable material with an asbestos content of greater than one percent, or b) any non-friable material with asbestos content of greater than one percent that will, or could, become friable.

6.2.2 Asbestos Hazard Emergency Response Act (AHERA), 40 CFR Part 763, Subpart E

AHERA requires performance of asbestos surveys and the development of Asbestos Management Plans for all primary and secondary schools in the United States. Although this regulation applies to primary and secondary schools only, the procedures mandated under AHERA are considered the industry standard and are applied to all surveys performed by FACS unless otherwise specified by the building owner.

6.3 WORKER PROTECTION

6.3.1 Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101

The Federal Occupational Safety and Health Administrations (OSHA) require employers to implement specific work practices which protect workers from airborne asbestos exposure.

Building materials which contain even low levels of asbestos (<1%) can potentially generate significant concentrations of airborne asbestos fibers when disturbed. Therefore, control measures should be instituted which adequately address worker health and safety during planned renovation or demolition activities involving these materials.

6.4 HAZARDOUS WASTE

Building materials reported to contain less than one percent (<1%) of asbestos are not considered hazardous by the U.S. EPA, and hence, may not require removal and disposal prior to demolition or renovation. Regulations may vary, however, between regional air quality management districts and/or other state agencies responsible for implementing EPA's rules. Therefore, local agencies should be contacted for specific ACM definitions and handling requirements.

Composite sampling, which may potentially reduce the total asbestos content of the material, is only permitted when sampling joint compound, tape, and gypsum wallboard according to EPA’s Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems (40 CFR Part 61 FRL-4821-7).

6.5 LEAD

6.5.1 OSHA Lead (29 CFR 1926.62)

If paints or coatings containing any detectable concentration of lead will be impacted, a project should be considered regulated by OSHA as lead-related construction (29 CFR 1926.62).

A contractor who has employees that may be occupationally exposed to lead during a project must perform an initial determination regarding worker exposures to lead, which may be based on personal air monitoring at the start of the project, prior employee monitoring from the past 12 months under workplace conditions closely resembling the current project, or objective data demonstrating that exposures will not exceed the OSHA action level. It is the contractor's responsibility to conduct their initial determination and comply with any relevant OSHA requirements.

Workers disturbing existing paints or coatings during a project must have lead awareness or action level training depending on the initial exposure determination and lead-safe work practices must be used. Disturbance of lead-containing paints or coatings should be performed within a contained area to prevent the spread and build-up of lead dust to prevent the creation of a lead hazard. HEPA vacuums, dustless tools or shrouds, and/or intact removal of components should be employed to minimize lead dust generation and properly cleanup work areas following disturbance to lead-containing materials during a project. Waste generated during disturbance to lead-containing materials must be profiled in a hazardous waste determination to ascertain proper disposal requirements.

7 FINDINGS AND RECOMMENDATIONS

7.1 ASBESTOS

The following suspect materials were sampled during this survey and identified to **not contain** asbestos by laboratory analysis:

- Asphalt
- Cementitious Coating
- Concrete (Abutment)
- Concrete (Parapet)
- Concrete (Sidewalk)
- Parapet Sealant – White
- Sidewalk Sealant – Black
- Sidewalk Sealant – White
- Sealant – White

Please see Appendix A for a complete listing of materials sampled at the work areas and results from this survey.

As noted earlier, certain areas of the bridge structure were inaccessible, namely the underside of the bridge deck, metal supports, and roadway. No additional suspect materials were observed visually during this survey; however, it is known that certain materials (i.e. deck sheathing) are most likely to be present but not visible

If any other suspect materials are discovered during future work, they must be assumed to be asbestos-containing materials until tested and proven not to contain asbestos.

See the Regulations section above for additional information regarding asbestos compliance.

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

7.2 LEAD

The following paint was found to be **lead-containing** by XRF analysis:

- Black Paint on Metal Light Post

The following paints/coatings did not contain detectable concentrations of lead above the laboratory's reporting limit:

- Black Paint on Concrete Sidewalk
- Red Paint on Concrete Curb
- White Paint on Concrete Curb
- Yellow Paint on Concrete Curb

As noted above, certain areas of the bridge structure were inaccessible. The following paints were observed visually during this survey but not sampled and must be handled as lead-containing unless sampled to confirm lead-content:

- Grey Paint on Concrete Abutment
- White Paint Striping on Asphalt Road
- Yellow Paint Striping on Asphalt Road

Any paints not included in the survey, or paints with results of 0.00 mg/cm² by XRF analysis without confirming representative laboratory result, must be handled as lead-based unless sampled and proven otherwise.

Workers that impact paints containing any detectable amount of lead must use lead-safe practices and have valid training for the method of impact to comply with OSHA, 29 CFR 1926.62. To comply with best work practices, any disturbance to paints or coatings that contain lead should be completed within a contained area to prevent the creation of a lead hazard. To ensure compliance with US EPA and Nevada Division of Environmental Protection regulations for waste, any waste streams containing lead should be profiled prior to disposal to determine the correct waste characterization.

FACS recommends that the results of this report be incorporated into any upcoming project plans provided for this project for informational purposes.

8 LIMITATIONS

This investigation is limited to the conditions and practices observed, and information made available to FACS. The methods, conclusions and recommendations provided are based on FACS' judgment, expertise, and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Please do not hesitate to contact our office with any questions or concerns. Thank you for the opportunity to assist NDOT with promoting worker safety and a healthy environment.

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

APPENDIX A

ASBESTOS SURVEY SUMMARY, SAMPLE CHAIN-OF-CUSTODY AND LABORATORY RESULTS REPORT

Asbestos Survey Summary (Lab Report B362726) NDOT – Bridge B-303 – Site Survey Survey Date: August 9, 2024						
Sample Number	**Material Description**	**Location(s) of Material**	**Material Number**	**Asbestos Content (%)**	**Asbestos NESHAP Category**	**Approximate Quantity (ft^2)**
01A-01C	Asphalt	Roadway above bridge	01	Layer: Black Non-Fibrous Material (None Detect)	NA	NA
02A-02C	Sidewalk Sealant – Black	Sidewalks	02	Layer: Black Non-Fibrous Material (None Detect)	NA	NA
03A-03C	Cementitious Coating	Along sides of bridge on parapets	03	Layer: Grey Cementitious Material (None Detect)	NA	NA
04A-04C	Concrete (Abutment)	At each end of the bridge	04	Layer: Grey Cementitious Material (None Detect) Layer: Paint (None Detect)	NA	NA
05A-05C	Concrete (Parapet)	Along the sides of bridge	05	Layer: Grey Cementitious Material (None Detect)	NA	NA
06A-06C	Concrete (Sidewalk)	Along roadway on both sides of bridge	06	Layer: Grey Cementitious Material (None Detect)	NA	NA
07A-07C	Parapet Sealant – White	Along sides of bridge on parapets	07	Layer: Tan Non-Fibrous Material (None Detect) Layer: Paint (None Detect)	NA	NA
08A-08C	Sidewalk Sealant – White	Sidewalks	08	Layer: Grey Non-Fibrous Material (None Detect)	NA	NA

Asbestos Survey Summary (Lab Report B362726) NDOT – Bridge B-303 – Site Survey Survey Date: August 9, 2024						
Sample Number	**Material Description**	**Location(s) of Material**	**Material Number**	**Asbestos Content (%)**	**Asbestos NESHAP Category**	**Approximate Quantity (ft^2)**
09A	Sealant – White	Southeast Corner of sidewalk	09	Layer: Grey Non-Fibrous Material (None Detect)	NA	NA

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

Bulk Material Analysis Request Form

Date:	8-9-24	Contact Name:	Daniel Prado
Collected by:	Zachary Ramos	Bill:	RN12
Date Collected:	8-9-24	Type of Analysis:	PLM w/Dispersion Staining
Laboratory:	SGS Forensics	Turnaround Time:	5 Day

Job ID: PJ79498
Job Site: NDOT – Bridge B303
Special Instructions:
Send Results: Danny.prado@facs.com & zach.ramos@facs.com

Sample ID	Results	Material Description and Location
PJ79498-01A		Asphalt
		NW corner top of bridge
PJ79498-01B		Asphalt
		NW corner top of bridge
PJ79498-01C		Asphalt
		NW corner top of bridge
PJ79498-02A		Black Sidewalk sealant
		SE corner of bridge
PJ79498-02B		Black Sidewalk sealant
		SE corner of bridge
PJ79498-02C		Black Sidewalk sealant
		SE corner of bridge
PJ79498-03A		Cementitious Coating
		West side, center at parapet
PJ79498-03B		Cementitious Coating
		West side, center at parapet
PJ79498-03C		Cementitious Coating
		West side, center at parapet
PJ79498-04A		Concrete Abutment
		SW corner of bridge

Submitted By: _____ Date: 8-9-24
Received By: _____ Date: _____

AUG 12 2024 EXAMS 10:30

FACE
Forensic Analytical Consulting Services

Bulk Material Analysis Request Form

Date:	8-9-24	Contact Name:	Daniel Prado
Collected by:	Zachary Ramos	Bill:	RN12
Date Collected:	8-9-24	Type of Analysis:	PLM w/Dispersion Staining
Laboratory:	SGS Forensics	Turnaround Time:	5 Day

Job ID: PJ79498
Job Site: NDOT – Bridge B303
Special Instructions:
Send Results: Danny.prado@face.com & zach.ramos@face.com

Sample ID	Results	Material Description and Location
PJ79498-04B		Concrete Abutment
		SW corner of bridge
PJ79498-04C		Concrete Abutment
		SW corner of bridge
PJ79498-05A		Concrete Parapet
		W side, S end
PJ79498-05B		Concrete Parapet
		W side, Center
PJ79498-05C		Concrete Parapet
		W side, Center
PJ79498-06A		Concrete Sidewalk
		E side, Center
PJ79498-06B		Concrete Sidewalk
		E side, Center
PJ79498-06C		Concrete Sidewalk
		E side, S send
PJ79498-07A		Parapet Sealant - White
		E side, S end
PJ79498-07B		Parapet Sealant - White
		E side, S end

Submitted By: [signature] Date: 8-9-24
Received By: Date:

AUG 1 3 2024
FX 4985
10:30

FACS
Forensic Analytical Consulting Services

Bulk Material Analysis Request Form

Date:	8-9-24	Contact Name:	Daniel Prado
Collected by:	Zachary Ramos	Bill:	RN12
Date Collected:	8-9-24	Type of Analysis:	PLM w/Dispersion Staining
Laboratory:	SGS Forensics	Turnaround Time:	5 Day

Job ID: PJ79498
Job Site: NDOT – Bridge B303
Special Instructions:
Send Results: Danny.prado@facs.com & zach.ramos@facs.com

Sample ID	Results	Material Description and Location
PJ79498-07C		Parapet Sealant – White
		W side, S end
PJ79498-08A		Sidewalk Sealant – White
		NW corner
PJ79498-08B		Sidewalk Sealant – White
		SW corner
PJ79498-08C		Sidewalk Sealant – White
		W side, Center
PJ79498-09A		White Sealant
		E side, S end on parapet

Submitted By: [signature] Date: 8-9-24
Received By: Date:

AUG 12 2024
EXAMS
10:30

Final Report

Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-0

Forensic Analytical Consulting Svcs
Daniel Prado
21228 Cabot Blvd.

Hayward, CA 94545

Client ID: FACS00
Report Number: B362726
Date Received: 08/12/24
Date Analyzed: 08/19/24
Date Printed: 08/19/24
First Reported: 08/19/24

Job ID/Site: PJ79498; Kleinfelder, Inc. 21228 Cabot Blvd., Hayward, CA 94545

Date(s) Collected: 08/09/2024

SGSFL Job ID: FACS00
Total Samples Submitted: 25
Total Samples Analyzed: 25

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PJ79498-01A	12763063						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-01B	12763064						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-01C	12763065						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-02A	12763066						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-02B	12763067						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-02C	12763068						
Layer: Black Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-03A	12763069						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-03B	12763070						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

3777 Depot Road, Suite 409, Hayward, CA 94545 | Phone: 510.887.8828 / 800.827.3274 Fax: 510.887.4218 | https://falaboratories.sgs.com

Report Number: B362726

Client Name: Forensic Analytical Consulting Svcs **Date Printed:** 08/19/24

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PJ79498-03C	12763071						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-04A	12763072						
Layer: Grey Cementitious Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-04B	12763073						
Layer: Grey Cementitious Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-04C	12763074						
Layer: Grey Cementitious Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-05A	12763075						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-05B	12763076						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-05C	12763077						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-06A	12763078						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-06B	12763079						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-06C	12763080						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

3777 Depot Road, Suite 409, Hayward, CA 94545 | Phone: 510.887.8828 / 800.827.3274 Fax: 510.887.4218 | https://falaboratories.sgs.com

Report Number: B362726

Client Name: Forensic Analytical Consulting Svcs **Date Printed:** 08/19/24

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PJ79498-07A	12763081						
Layer: Tan Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-07B	12763082						
Layer: Tan Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-07C	12763083						
Layer: Tan Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-08A	12763084						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-08B	12763085						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-08C	12763086						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
PJ79498-09A	12763087						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Maria E. Casper

Maria Cosper, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

3777 Depot Road, Suite 409, Hayward, CA 94545 | Phone: 510.887.8828 / 800.827.3274 Fax: 510.887.4218 | https://falaboratories.sgs.com

APPENDIX B

LEAD PAINT CHIP SUMMARY, SAMPLE CHAIN-OF-CUSTODY,

LABORATORY RESULTS REPORT AND XRF TESTING DATA

Lead Paint Chip Summary (Lab Report M262333) NDOT – Bridge B-303 – Site Survey Survey Date: August 9, 2024					
Sample Number	**Component Location**	**Component**	**Color**	**Substrate**	**Analytical Results (weight percent of lead)**
Pb01	East Side Center	Curb	White	Concrete	< 0.006
Pb02	Northwest Corner	Curb	Yellow	Concrete	< 0.006
Pb03	Northwest Corner	Curb	Red	Concrete	< 0.007
Pb04	Northeast Corner	Sidewalk	Black	Concrete	< 0.007

FACS
Forensic Analytical Consulting Services

Bulk Material Analysis Request Form

Date: 8-9-24
Collected by: Zachary Ramos
Date Collected: 8-9-24
Laboratory: SGS Forensics

Contact Name: Daniel Prado
Bill: RN12
Type of Analysis: Flame AA
Turnaround Time: 5 Day

Job ID: PJ79498
Job Site: NDOT – Bridge B303
Special Instructions:
Send Results: Danny.prado@facs.com & zach.ramos@facs.com

Sample ID	Results	Material Description and Location
PJ79498-Pb01		White paint on concrete curb
		E side, center on curb
PJ79498-Pb02		Yellow paint on concrete curb
		NW corner of bridge
PJ79498-Pb03		Red paint on concrete curb
		NW corner of bridge
PJ79498-Pb04		Black paint residue on concrete sidewalk
		NE corner of bridge

AUG 12 2024
EX 4985
10:30AM

Submitted By: [signature] Date: 8-9-24
Received By: Date:

Metals Analysis of Paints

(AIHA-LAP, LLC Accreditation, Lab ID #101762)

Forensic Analytical Consulting Svcs
Daniel Prado
21228 Cabot Blvd.

Hayward, CA 94545

Client ID: FACS00
Report Number: M262333
Date Received: 08/12/24
Date Analyzed: 08/19/24
Date Printed: 08/19/24
First Reported: 08/19/24

Job ID / Site: PJ79498; Kleinfelder, Inc. 21228 Cabot Blvd., Hayward, CA 94545
Date(s) Collected: 8/9/2024

SGSFL Job ID: FACS00
Total Samples Submitted: 4
Total Samples Analyzed: 4

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
PJ79498-PB01	30943015	Pb	< 0.006	wt%	0.006	EPA 3050B/7000B
PJ79498-PB02	30943016	Pb	< 0.006	wt%	0.006	EPA 3050B/7000B
PJ79498-PB03	30943017	Pb	< 0.007	wt%	0.007	EPA 3050B/7000B
PJ79498-PB04	30943018	Pb	< 0.007	wt%	0.007	EPA 3050B/7000B

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Kevin Poon

Kevin Poon, Laboratory Supervisor, Hayward Laboratory

FACS
Forensic Analytical Consulting Services

SURVEY FOR LEAD BASED PAINT

Site Name:	Bridge B-303								**Date:**	8-9-24
Address:	Truckee River – Downtown Reno								**FACS Job #:**	PJ79498
Start Time:	0815	**Calibration:**	**1.04 =**	1.03	**1.04 =**	1.06	**1.04 =**	1.05	**Technician:**	N/A
End Time:	0845	**Calibration:**	**1.04 =**	1.04	**1.04 =**	1.06	**1.04 =**	1.06	**Inspector/Assessor:**	Zachary Ramos
Sci Apps									**Condition Codes: I = Intact, F = Fair, P = Poor**	

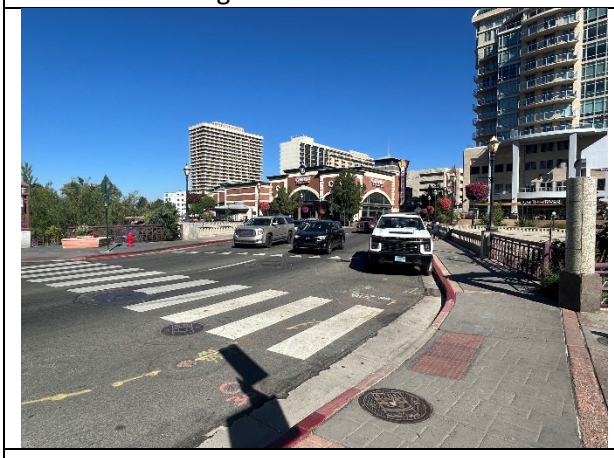
No.	Sample Location	Color	Substrate	Component	Condition	XRF Result (mg/cm2)
1.	NW corner top of bridge	Yellow	Concrete	Curb	Poor	0
2.	NW corner top of bridge	Yellow	Concrete	Curb	Poor	0
3.	W side, N end top of bridge	Yellow	Concrete	Curb	Poor	0
4.	NW corner top of bridge	Red	Concrete	Curb	Poor	0
5.	W side, S end	Red	Concrete	Curb	Poor	0
6.	W side, center top of bridge	White	Asphalt	Road	Fair	0
7.	NE corner	Red	Concrete	Curb	Fair	0
8.	E side, N end	Black	Metal	Light post	Intact	0.02
9.	E side, S end	Black	Metal	Light post	Intact	0.11
10.	SE corner	Red	Concrete	Curb	Fair	0
11.	SE corner	White	Concrete	Curb	Fair	0
12.	SE corner	Black	Metal	Light post	Intact	0.01
13.	NE corner	Black	Concrete	Floor	Poor	0
14.						
15.						
16.						
17.						
18.						
19.						
20.						

APPENDIX C

SITE PHOTOS AND SAMPLE LOCATION DRAWING

Bridge B-303 – Overview

Bridge B-303 – Sign



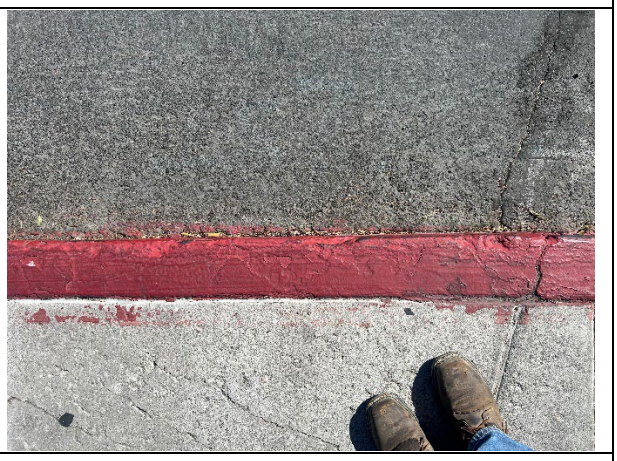
Asphalt

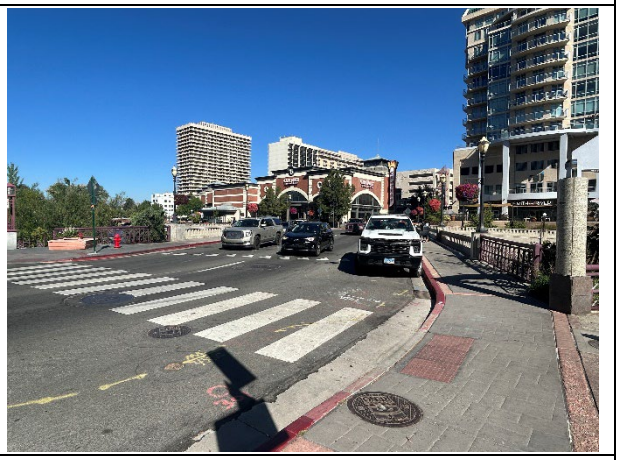
Sidewalk Sealant – Black

Cementitious Coating

Concrete (Abutment & Deck)

Grey Paint on Concrete

	
Concrete (Parapet & Sidewalk)	Parapet Sealant – White
	
Sidewalk Sealant – White	Sealant – White
	
Black Paint on Metal Light Post	Red Paint on Concrete

	
Yellow Paint on Concrete	White Paint on Concrete
	
Black Paint on Concrete	Yellow & White Paint Striping on Roadway

Legend

Sample Location

- On Bridge
- Under Bridge

0 25 50

Feet

Sample Location Map

NDOT
Bridge B-303
Reno NV

GeomorphIS, LLC; August 2024

APPENDIX D

CERTIFICATIONS OF PERSONNEL AND LABORATORIES

STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
Occupational Safety and Health Administration
Asbestos Control Program

Certifies That Zachary Ramos
Forensic Analytical Consulting Services
is Licensed As Asbestos Abatement Consultant

License No. IJM-2341 Expiration Date 09/05/2024

Signature Of Licensee

Forensic Analytical Consulting Services, Inc.

This is to confirm that

Zachary Ramos

Has attended the Four hour

AHERA Refresher Course for Asbestos Inspectors

And has completed the requisite training for asbestos accreditation under TSCA Title II

Course Date: 09-05-2024 to 09-05-2024

Certificate Number: PETBIR20240100
Valid Until: September 05, 2025

Cal/OSHA Approval Number:CA-025-06

FACS
Forensic Analytical Consulting Services

Fred J. Vinciguerra, Chief Executive Officer
Forensic Analytical Consulting Services, Inc.
21228 Cabot Blvd, Hayward, CA 94545
(800) 677-1483

United States Environmental Protection Agency

This is to certify that

Zachary E Ramos

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires November 01, 2026

LBP-I-I255969-1

Certification #

October 18, 2023

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101459-0

SGS Forensic Laboratories

Hayward, CA

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

Asbestos Fiber Analysis

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

2024-07-01 through 2025-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

SGS Forensic Laboratories

3777 Depot Rd, Suite 409, Hayward, CA 94545-2761

Laboratory ID: LAP-101762

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

LABORATORY ACCREDITATION PROGRAMS

☑	**INDUSTRIAL HYGIENE**	Accreditation Expires: July 01, 2025
☑	**ENVIRONMENTAL LEAD**	Accreditation Expires: July 01, 2025
☑	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: July 01, 2025
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:
☐	**BERYLLIUM FIELD/MOBILE**	Accreditation Expires:

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

Cheryl O. Morton

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

Revision21: 05/15/2023

Date Issued: 08/01/2023