



## BRIDGE B-422

### HAZARDOUS MATERIALS SURVEY

BRIDGE INSPECTION AND SURVEY FOR PRESENCE OF  
ASBESTOS AND HEAVY METAL(S),  
MAY 2022

NDOT Hazardous Materials Section, Environmental Division

1263 South Stewart Drive  
Carson City, NV 89712

## **EXECUTIVE SUMMARY**

The inspection (survey) for hazardous materials was conducted on bridge B-422 on May 24, 2022, by NDOT personnel from the Hazardous Materials section, of the Environmental Division. The bridge was evaluated for both asbestos containing materials (ACM) and heavy metals in coating materials. No suspect coating materials were identified, and nine suspect asbestos samples were collected with results and considerations summarized below:

- No ACMs were identified

## 1.0 INTRODUCTION

NDOT conducted an asbestos survey and screening for metals-based coating materials on the following bridge structure located in Humboldt County:

- B-422 (Rock Creek, State Route 789)

The survey was conducted on May 24, 2022, by NDOT personnel. Suspect Asbestos Containing Material (ACM) were identified and appropriately sampled. Coating materials, if present, were sampled and analyzed for the Resource Recovery and Conservation Act seven (RCRA 7) metals.

Bulk asbestos samples were analyzed by a National Voluntary Laboratory Accredited laboratory by polarized light microscopy (PLM). Metals analysis was conducted by a Nevada Certified Lab. The results of the laboratory analysis are attached as Appendix C and Appendix D, respectively.

## 2.0 BRIDGE DESCRIPTION

Bridge B-422 was constructed in 1941. The bridge in its entirety is constructed of concrete to include stem walls, wing walls, and bridge deck overlain with asphaltic concrete.

## 3.0 FIELD ACTIVITIES

The survey was conducted by NDOT personnel, appropriately licensed Asbestos and Hazardous Emergency Response Act (AHERA) accredited asbestos inspectors. The survey was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763. A summary of the survey activities performed is discussed below. Copies of AHERA certifications and licenses for NDOT personnel conducting the survey are provided as Appendix E.

### 3.1 Visual and Physical Assessment

Survey activities began with a visual observation of the structures to identify homogeneous areas of suspect ACM and presence of coating materials. A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials.

The homogeneous areas identified during the visual survey are summarized in Table 1.

**Table 1 - Bridge Component Descriptions**

Homogeneous Area	Description	Sample IDs
A	stem walls	Pier-1, Pier-2, Pier-3
B	wing walls	WW-1, WW-2, WW-3
C	bridge deck	BD-1, BD-2, BD-3

### **3.2 Sample Collection**

Based on results of the visual observation, bulk samples of suspect ACM and coating materials were collected in general accordance with AHERA sampling protocols. Representative samples of suspect materials were collected in each homogeneous area. Samples were placed in new sealable containers and labeled with unique sample numbers.

### **3.3 Sample Analysis**

Bulk samples of ACM were submitted under chain of custody to Asbestos TEM Laboratories for analysis by PLM. The percentage of asbestos, where applicable, was determined by microscopic visual estimation. Coating material samples were also submitted to Alpha Analytical and analyzed for heavy metals using EPA 6020 test method.

A discussion of suspect ACM and suspect metals-based coating samples collected during the survey and findings are included in Section 6.0.

## **4.0 PLAN REVIEW**

Original design plans were not available for review.

## **5.0 REGULATORY OVERVIEW**

### **5.1 Asbestos Regulations**

NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activity. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable, or Category II non-friable ACM. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1% asbestos. Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which are in poor condition and have become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered Regulated ACM (RACM).

### **5.2 Coating Material and Lead Based Paint Regulations**

Lead-based paint (LBP) is defined as a surface coating or paint containing lead in excess of 0.5% (5000 mg/Kg) by weight (EPA Toxic Substance Control Act, Section 401).

Under EPA regulations heavy metal impacted wastes generated during abatement activities are handled as either a solid waste or a hazardous waste, depending on the concentration of each of the metal(s) and the method of coating material removal.



## 6.0 FINDINGS AND RECOMMENDATIONS

### 6.1 Suspect Asbestos Containing Materials

A total of 9 bulk samples were collected from five homogeneous areas of suspect ACM. No Asbestos Containing Materials were identified.

A bridge Location Map is included in Appendix A. A photographic log showing homogenous areas is presented in Appendix B. Asbestos analytical results are included in Appendix C. A summary of the suspect ACMs identified is provided in Table 2.

**Table 2 – Summary of Suspected ACM**

Homogeneous Sampling Area	Sample Number	Material Description/Sample Location	Asbestos Results <sup>(1)</sup> , %	NESHAP Category <sup>(2)</sup>	Friability <sup>(3)</sup>
A	Pier-1	concrete stem walls/piers	Not detected	N/A	non-friable
	Pier-2				
	Pier-3				
B	WW-1	concrete wing walls	Not detected	N/A	non-friable
	WW-2				
	WW-3				
C	BD-1	concrete bridge deck	Not detected	N/A	non-friable
	BD-2				
	BD-3				

notes: (1) PLM unless otherwise noted.

(2) NESHAP category I, category II, RACM, or (N/A) not applicable.

(3) Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure.

*Additional suspect materials, other than those identified during the survey, could exist within the structures in areas not accessible to the inspector at the time of the survey. Should suspect materials other than those identified during this survey be uncovered during the renovation/demolition process, those materials should be assumed to be ACM until sampling and analysis can confirm or refute this assumption.*

### 6.2 Coating Materials

No suspect coating materials were identified.

### 6.3 Recommendations

No ACMs were identified.

**Appendix A**  
**Bridge Location Map**

Bridge B-422  
Rock Creek, SR 789  
Humboldt County, NV  
Location Map



**Appendix B**  
**Bridge Photo Log**



**PHOTOGRAPHIC DOCUMENTATION**

**Bridge B-422**  
**Rock Creek, SR 789**  
**Humboldt County, Nevada**

**PHOTO 1**

**DATE:**  
5/24/2022

**DIRECTION:**  
South

**TAKEN BY:**  
Robert Piekarz

**DESCRIPTION:**  
Bridge B-422



**PHOTO 2**

**DATE:**  
5/22/2022

**DIRECTION:**  
South

**TAKEN BY:**  
Robert Piekarz

**DESCRIPTION:**  
Bridge B-422





**PHOTOGRAPHIC DOCUMENTATION**  
**Bridge B-422**  
**Rock Creek, SR 789**  
**Humboldt County, Nevada**

**PHOTO 3**

**DATE:**  
5/22/2022

**DIRECTION:**  
East

**TAKEN BY:**  
Robert Piekarz

**DESCRIPTION:**  
Wing wall



**PHOTO 4**

**DATE:**  
5/22/2022

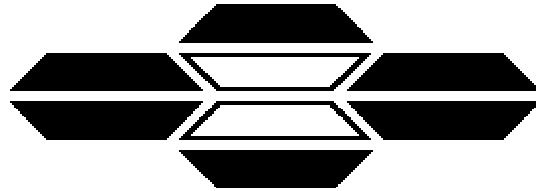
**DIRECTION:**  
North

**TAKEN BY:**  
Robert Piekarz

**DESCRIPTION:**  
Bridge B-422



**Appendix C**  
**Asbestos Sample(s)**  
**Analytical Results**



**ASBESTOS TEM LABORATORIES, INC.**

**EPA Method 600/R-93/116  
Polarized Light Microscopy  
Analytical Report**

**Report No. 147893**

1350 Freeport Blvd., Unit 104  
Sparks, NV 89431  
(775) 359-3377  
FAX (775) 359-2798

*Main Office Located At:*  
3431 Ettie Street Oakland, CA 94608  
Ph. (510) 704-8930 Fax (510) 704-8929

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ASBESTOS TEM LABORATORIES, INC



NVLAP Lab Code 200104-0

May-26-22

Robert Piekarz  
Nevada Department of Transportation  
1263 South Stewart Street  
Carson City, NV 89712

RE: LABORATORY JOB # 9092-00079  
Polarized light microscopy analytical results for 9 bulk sample(s).  
Job Site: B-422  
Job No.: NA  
Report No.: 147893

Enclosed please find the bulk material analytical results for one or more samples submitted for asbestos analysis. The analyses were performed in accordance with EPA Method 600/R-93/116 or 600/M4-82-020 for the determination of asbestos in bulk building materials by polarized light microscopy (PLM). Please note that while PLM analysis is commonly performed on non-friable and fine grained materials such as floor tiles and dust, the EPA method recognizes that PLM is subject to limitations. In these situations, accurate results may only be obtainable through the use of more sophisticated and accurate techniques such as transmission electron microscopy (TEM) or X-ray diffraction (XRD).

Prior to analysis, samples are logged-in and all data pertinent to the sample recorded. The samples are checked for damage or disruption of any chain-of-custody seals. A unique laboratory ID number is assigned to each sample. A hard copy log-in sheet containing all pertinent information concerning the sample is generated. This and all other relevant paper work are kept with the sample throughout the analytical procedures to assure proper analysis.

Each sample is opened in a class 100 HEPA negative air hood. A representative sampling of the material is selected and placed onto a glass microscope slide containing a drop of refractive index oil. The glass slide is placed under a polarizing light microscope where standard mineralogical techniques are used to analyze and quantify the various materials present, including asbestos. The data is then compiled into standard report format and subjected to a thorough quality assurance check before the information is released to the client.

Please note all samples will be held for 3 months from the date of receipt unless otherwise requested by client.

Sincerely Yours,

Laboratory Analyst  
ASBESTOS TEM LABORATORIES, INC.

--- These results relate only to the samples tested and must not be reproduced, except in full, with the approval of the laboratory. This report must not be used to claim product endorsement by NVLAP, NIST, or any other agency of the U.S. Government. ---



NVLAP Lab Code 200104-0

# POLARIZED LIGHT MICROSCOPY ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Page: 1 of 1

Contact: Robert Piekarz	Samples Indicated: 9	Report No. <b>147893</b>
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 9	Date Submitted: May-24-22
	Split Layers Analyzed: 0	Date Reported: May-26-22
Job Site / No. B-422 NA		

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA	DESCRIPTION
		1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	FIELD LAB
BD-1 Lab ID # 9092-00079-001	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Bridge Deck
		3) _____ 4) May-26-22	Concrete-Tan
BD-2 Lab ID # 9092-00079-002	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Bridge Deck
		3) _____ 4) May-26-22	Concrete-Tan
BD-3 Lab ID # 9092-00079-003	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Bridge Deck
		3) _____ 4) May-26-22	Concrete-Tan
WW-1 Lab ID # 9092-00079-004	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Wing Walls
		3) _____ 4) May-26-22	Concrete-Grey
WW-2 Lab ID # 9092-00079-005	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Wing Walls
		3) _____ 4) May-26-22	Concrete-Grey
WW-3 Lab ID # 9092-00079-006	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Wing Walls
		3) _____ 4) May-26-22	Concrete-Grey
Pier-1 Lab ID # 9092-00079-007	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Pier Support
		3) _____ 4) May-26-22	Concrete-Grey
Pier-2 Lab ID # 9092-00079-008	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Pier Support
		3) _____ 4) May-26-22	Concrete-Grey
Pier-3 Lab ID # 9092-00079-009	<b>None Detected</b>	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	Concrete; Pier Support
		3) _____ 4) May-26-22	Concrete-Grey
Lab ID #		1) _____ 2) _____ 3) _____ 4) _____	

Limit of quantitation of method is estimated to be 1% asbestos using a visual area estimation technique. Split samples are inhomogeneous.

Laboratory Analyst   
Greg Hanes

Survey Data

Inspectors: <del>Robert Piekarz</del> / Robert Piekarz		Project Name: NA		Project Number: <u>5/25/22</u>	
Phone: 775-888-7892		Project Location: B-4ZZ		Date Sampled: 5/25/22	
Turn-A-Round Time: Rush		24-Hour		Analysis Type: Asbestos	
Sample ID		Material Description		Air	
Lab #	Sample ID	Material Description	Sample Location	Verbal	Fax
1	BD-1	concrete	Bridge Deck		
2	BD-2		↓		
3	BD-3		↓		
4	WW-1		wine walls		
5	WW-2		↓		
6	WW-3		↓		
7	PIER-1		Pier Support		
8	PIER-2				
9	PIER-3				
10					

Comments/Additional Information		CONDITION	UNITS	ASBESTOS %
PFI - Pipe Fitted Insulation	VT - Vinyl Tile	G - Good	LF - Linear Feet	A - Asbestos Asbestos
PRI - Pipe Run Insulation	M - Mastic	D - Damaged	SF - Square Feet	C - Chrysotile Asbestos
DI - Duct Insulation	CBM - Cove Base Mastic	SD - Significant Damage	CF - Cubic Feet	NDA - No Asbestos Detected
TI - Tank Insulation	AT - Acoustical Tile			Assumed ACM - No Samples Taken
EJ - Expansion Joint	SA - Spray Acoustic			
BI - Boiler Insulation	W - Wall			
	P - Plaster			
	JC - Joint Compound			

Relinquished By: \_\_\_\_\_  
 Date/Time: 5/24/22 12:00  
 Received By: LP/ATEM [Signature]  
 5/24/22 12:00 pm

**Appendix D**  
**Inspector Certifications**  
**and**  
**Licenses**

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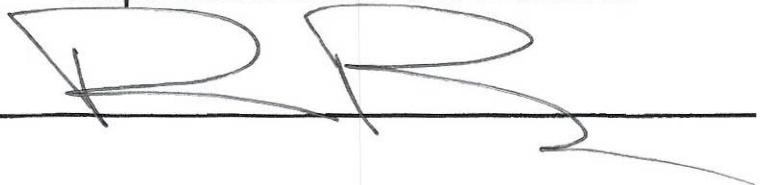
**STATE OF NEVADA**  
**DEPARTMENT OF BUSINESS AND INDUSTRY**  
**DIVISION OF INDUSTRIAL RELATIONS**  
**Occupational Safety and Health Administration**  
**Asbestos Control Program**

Certifies That Robert Piekarz  
State of Nevada-DOT  
is Licensed As Asbestos Abatement Consultant

License No. IJ-1049

Expiration Date 01/27/2023

Signature Of Licensee

A handwritten signature in black ink, appearing to read 'R. Piekarz', is written over a horizontal line. The signature is stylized with large, rounded letters and a long, sweeping tail.

# M & C Environmental Training

**Asbestos Inspector**  
Refresher Training Course

**Robert Piekarz**

Has successfully completed the Asbestos Inspector Refresher course approved by the California Division of Occupational Safety and Health for purposes of certification required by Title 8, Article 2.7, Chapter 3.2, Section 341.16 and the accreditation required under the Toxic Substances Control Act, Title II. Conducted by M&C Environmental Training Inc., P. O. Box 6419, Concord, California. Tel. # (510) 499 - 5646

Course Approval Number: CA-003-06

Location: Reno, Nevada

Expiration: November 10, 2022

Dates: November 10, 2021

Director of Training: John McGinnis



Certificate Number 49971 IR

# M & C Environmental Training

## Asbestos Management Planner Refresher Training Course

**Robert Piekarz**

Has successfully completed the Asbestos Management Planner Refresher course approved by the California Division of Occupational Safety and Health for purposes of certification required by Title 8, Article 2.7, Chapter 3.2, Section 341.16 and the accreditation required under the Toxic Substances Control Act, Title II. Conducted by M&C Environmental Training Inc., P.O. Box 6419, Concord, California. Tel. # (510) 499 - 5646

Course Approval Number: CA-003-08

Location: Reno, Nevada

Expiration: November 10, 2022

Dates: November 10, 2021

Director of Training: John McGinnis



Certificate Number **49981 PR**