



## BRIDGE B-333

### HAZARDOUS MATERIALS SURVEY

BRIDGE INSPECTION AND SURVEY FOR PRESENCE OF  
ASBESTOS AND HEAVY METAL(S),  
FEBRUARY 2021

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-333 on February 11, 2021 by NDOT personnel from the Hazardous Materials section, of the Environmental Division. The bridges were evaluated for both asbestos containing materials (ACM) and heavy metals in coating materials. Twelve suspect asbestos samples were collected with results and considerations summarized below:

- No ACMs were identified
- Steel component paints (on the beams) was not sampleable but not believed to be a LBP.
- Center pier and pier cap were not sampled due to access issues.

## **1.0 INTRODUCTION**

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

- B-333 (Carson River near Weeks, US95A, NV)

The survey was conducted on February 11, 2021 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 eight (RCRA 8) 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-333 was constructed in 1987. Bridge B-333 is constructed of concrete and steel components. The concrete components include terminal-end bridge stem wall/backwall, wing walls, parapet, pier, pier cap, and concrete bridge deck overlain with asphaltic concrete. The steel components include beams and field splice plates. Light brown paint coating materials were applied to all steel components. Rubberized expansion joints were identified.

## **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, the presence of coating materials, and sample identifiers are summarized in Table 1.

**Table 1 - Bridge Component Descriptions**

Homogeneous Area	Description	Sample IDs
A	Wing walls	WW-1, WW-2, WW-3
B	Bridge decking	DECK-1, DECK-2, DECK-3
C	Stem walls/back walls	STEM-1, STEM-2, STEM-3
D	Parapet	PAR-1, PAR-2, PAR-3
F <sup>1</sup>	<i>Pier and pier cap</i>	NA
G <sup>2</sup>	<i>Metal components paint, light brown</i>	NA

notes: 1) Pier and pier cap were not accessible due to Carson River.  
 2) paint coating material was not sampleable.

### 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. A discussion of suspect ACM is included in Section 6.0.

## 4.0 PLAN REVIEW

Plans were not reviewed and not considered necessary.

## 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 12 bulk samples were collected from four 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	WW-1	Wing walls	Not detected	N/A	non-friable
	WW-2				
	WW-3				
B	DECK-1	Bridge deck	Not detected	N/A	non-friable
	DECK-2				
	DECK-3				
C	STEM-1	Stem walls/back walls	Not detected	N/A	non-friable
	STEM-2				
	STEM-3				
D	PAR-1	Parapet	Not detected	N/A	non-friable
	PAR-2				
	PAR-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 including pier and pier cap, 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

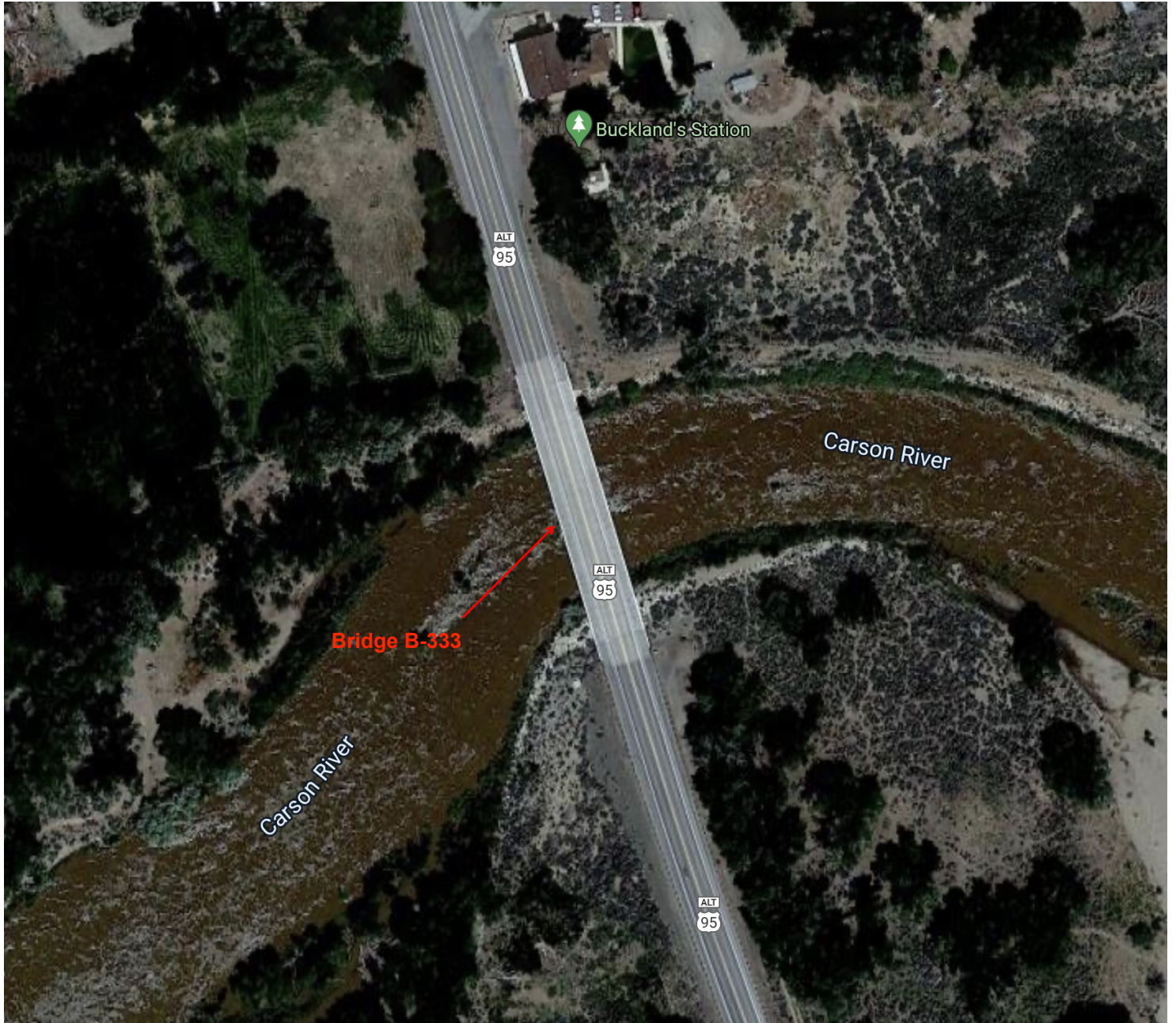
Coating material applied to the steel components was not sampleable. While not believed to be a LBP, if lead is present at concentrations greater than 0.5%, coating material will need to be managed accordingly.

### **6.3 Recommendations**

No ACMs were identified. Coating materials on bridge's steel components were unsamplable but not believed to be a LBP.

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

Bridge B-333  
Carson River near Weeks,  
US95A Lyon County, NV





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

**PHOTOGRAPHIC DOCUMENTATION**  
**Bridge B-333**  
**Carson River near Weeks,**  
**US95A**  
**Lyon County, NV**

**PHOTO 1**

**DATE:**

02/11/2021

**DIRECTION:**

South

**TAKEN BY:**

Robert Piekarz

**DESCRIPTION:**

B-333 bridge deck and parapet.



**PHOTO 2**

**DATE:**

02/11/2021

**DIRECTION:**

Southwest

**TAKEN BY:**

Robert Piekarz

**DESCRIPTION:**

Bridge B-333  
parapet, pier, and  
steel beams.



**PHOTOGRAPHIC DOCUMENTATION**

**Bridge B-333  
Carson River near Weeks,  
US95A  
Lyon County, NV**

**PHOTO 3**

**DATE:**

02/11/2021

**DIRECTION:**

Northwest

**TAKEN BY:**

Robert Piekarz

**DESCRIPTION:**

B-333 beam and wing/stem wall.



**PHOTO 4**

**DATE:**

02/11/2021

**DIRECTION:**

Southeast

**TAKEN BY:**

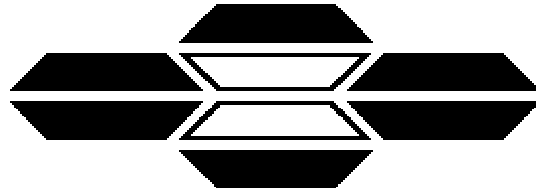
Robert Piekarz

**DESCRIPTION:**

Bridge B-333  
parapet, pier, pier  
cap, and steel  
beam.



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



**ASBESTOS TEM LABORATORIES, INC.**

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

**Report No. 143794**

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

---



ASBESTOS TEM LABORATORIES, INC



NVLAP Lab Code 200104-0

Feb-16-21

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

RE: LABORATORY JOB # 9092-00055  
Polarized light microscopy analytical results for 12 bulk sample(s).  
Job Site: Bridge B-333  
Job No.:  
Report No.: 143794

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 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

Contact: Robert Piekarz	Samples Indicated: 12	Report No. <b>143794</b>
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 12	Date Submitted: Feb-11-21
	Split Layers Analyzed: 0	Date Reported: Feb-16-21
	Job Site / No. Bridge B-333	

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA	DESCRIPTION
		1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	FIELD LAB
WW-1 Lab ID # 9092-00055-001	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq	Concrete - wing wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
WW-2 Lab ID # 9092-00055-002	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - wing wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
WW-3 Lab ID # 9092-00055-003	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - wing wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
STEM-1 Lab ID # 9092-00055-004	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - stem wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
STEM-2 Lab ID # 9092-00055-005	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - stem wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
STEM-3 Lab ID # 9092-00055-006	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - stem wall
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
DECK-1 Lab ID # 9092-00055-007	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - bridge deck
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
DECK-2 Lab ID # 9092-00055-008	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - bridge deck
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
DECK-3 Lab ID # 9092-00055-009	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - bridge deck
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
PAR-1 Lab ID # 9092-00055-010	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - parapet
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey

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



NVLAP Lab Code 200104-0

# POLARIZED LIGHT MICROSCOPY ANALYTICAL REPORT

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

Page: 2 of 2

Contact: Robert Piekarz	Samples Indicated: 12	Report No. <b>143794</b>
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 12	Date Submitted: Feb-11-21
	Split Layers Analyzed: 0	Date Reported: Feb-16-21
Job Site / No. Bridge B-333		

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA	DESCRIPTION
		1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	FIELD LAB
PAR-2  Lab ID # 9092-00055-011	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - parapet
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
PAR-3  Lab ID # 9092-00055-012	<b>None Detected</b>	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Concrete - parapet
		3) 2-11-21                      4) Feb-16-21	Concrete-Grey
Lab ID #		1) 2) 3)                                      4)	
Lab ID #		1) 2) 3)                                      4)	
Lab ID #		1) 2) 3)                                      4)	
Lab ID #		1) 2) 3)                                      4)	
Lab ID #		1) 2) 3)                                      4)	
Lab ID #		1) 2) 3)                                      4)	
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: Robert Plekarz		Project Name: Road milling and bridge repair		Project Number: 60995		Date Sampled: 2/11/2021		
Phone: 775-888-7692		Project Location: Bridge B-333		Analysis Type: Asbestos		Air <u>Bulk</u>		
Turn-A-Round Time: Rush		Requests: Verbal		Fax		Test to First Positive: Yes <u>No</u>		
24-Hour (2 Day)		Sample Location		Location of Materials		Quantity		
Lab #	Sample ID	Material Description	Sample Location	Location of Materials	Quantity	Condition	Friable	Asbestos %
	WW-1	Concrete		wing wall		g	2	
	WW-2	↓		↓			2	
	WW-3	↓					2	
	STEM-1	concrete		STEM WALL			2	
	STEM-2	↓					2	
	STEM-3	↓					2	
	Deck-1	concrete		BRIDGE Deck		g	2	
	Deck-2	↓					2	
	Deck-3	↓					2	
	PAR-1	concrete		PAN-PEP			2	

Comments/Additional Information

MATERIAL		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			
	JC - Joint Compound			

Relinquished By: [Signature] Relinquished By: \_\_\_\_\_  
 Date/Time: 2/11/21 11:00 Date/Time: \_\_\_\_\_  
 Received By: Andrew Snow Received By: \_\_\_\_\_

Nevada Department of Transportation  
 1263 S. Stewart St  
 Carson City, NV 89701

**Survey Data**

Inspectors: Robert Plekarz		Project Name: Road milling and bridge repair		Project Number: 60995		Date Sampled: 2/11/2021					
Phone: 775-888-7692		Project Location: Bridge B-333		Analysis Type: Asbestos		Air <u>Bulk</u>					
Turn-A-Round Time: Rush 24-Hour <u>2 Day</u>		Requests: Verbal		Fax		Test to First Positive: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Lab #	Sample ID	Material Description	Sample Location	Location of Materials	Quantity	Condition	Friable	Asbestos %			
1	PAR-2	concrete		PARAPET	3	3	N				
	PAR-3	↓		↓	3	3	N				
Comments/Additional Information											
MATERIAL			CONDITION			UNITS			ASBESTOS %		
PFI - Pipe Fitted Insulation	VT - Vinyl Tile	GA - Gasket	G - Good	LF - Linear Feet	A - Asbestos Asbestos						
PRI - Pipe Run Insulation	M - Mastic	D - Debris	D - Damaged	SF - Square Feet	C - Chrysotile Asbestos						
DI - Duct Insulation	CBM - Cove Base Mastic	TSI - Thermal System	SD - Significant Damage	CF - Cubic Feet	NDA - No Asbestos Detected						
TI - Tank Insulation	AT - Acoustical Tile	Insulation			Assumed ACM - No Samples Taken						
EI - Expansion Joint	SA - Spray Acoustic	R - Roof									
BI - Boiler Insulation	W - Wall	DW - Drywall									
	P - Plaster	JC - Joint Compound									
Relinquished By: <u>[Signature]</u>			Relinquished By: _____			Date/Time: _____			Date/Time: _____		
Date/Time: <u>2/11/21 11:50</u>			Date/Time: _____			Received By: _____			Received By: _____		

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

*mm*

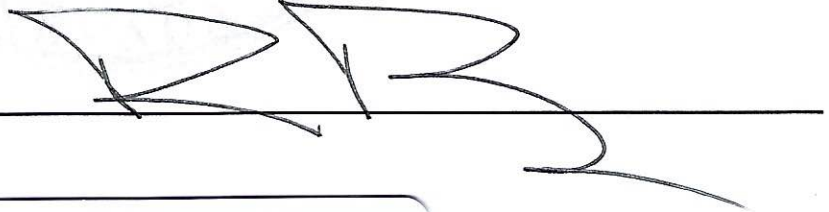
**STATE OF NEVADA**  
**DEPARTMENT OF BUSINESS AND INDUSTRY**  
**DIVISION OF INDUSTRIAL RELATIONS**  
**Occupational Safety and Health Administration**  
**Asbestos Control Program**

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

License No. IJ-1049

Expiration Date 11/24/2021

Signature Of Licensee \_\_\_\_\_



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

*mm*

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

License No. IJ-1049      Expiration Date 11/24/2021

Signature Of Licensee \_\_\_\_\_

# 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: Concord, California

Expiration: November 24, 2021

Dates: November 24, 2020

Director of Training: John McGinnis



Certificate Number 48309 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: Concord, California

Dates: November 24, 2020

Director of Training: John McGinnis



Expiration: November 24, 2021

Certificate Number **48327 PR**