



BRIDGES G-2845 E/W
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 the east and west bridges of G-2845 on February 17, 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. One suspect metals sample and twenty-three suspect asbestos samples were collected with results and considerations summarized below:

- No ACMs were identified
- No heavy metals were found in coating materials.
- Bridges has elastomeric bearing pads.

1.0 INTRODUCTION

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

- G-2845E (Eastbound Highway 50, Hazen, NV)
- G-2845W (Westbound Highway 50, Hazen, NV)

The survey was conducted on February 17, 2021 by NDOT personnel. Due to the similarities between the two bridges; including design, construction materials, date of construction, similar wear patterns and maintenance activities, bridges were surveyed collectively, and findings presented herein, shall apply to both bridges, despite their physical separation. 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

Bridges G-2845 E/W were constructed in 2008. East and west bridges of G-2845 are constructed of concrete and steel components. The concrete components include terminal-end bridge stem wall/back walls, wing walls, abutments, parapet, piers, and bridge deck overlain with concrete asphaltic concrete. The steel components include beams, cross beams, field splice plates, and undercarriage corrugated steel decking. Coating materials were applied throughout the bridge and with the exception of undercarriage steel decking and fencing, paint applied to all steel components. Bridge bearing pads are elastomeric. Both fibrous and 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	Abutment	ABT-1, ABT-2, ABT-3
B	Bridge decking	DECK-1, DECK-2, DECK-3
C	Stem walls/back walls	STEM-1, STEM-2, STEM-3
D	Wing walls	WW-1, WW-2, WW-3
E	Parapet	PARA-1, PARA-2, PARA-3
F	Piers	COL-1, COL-2, COL-3
G	Brown fibrous expansion joint	EXP-1
H	Brown fibrous expansion joint	EXP-2
I	Bridge coating material	TX-1
J	Bridge coating material	TX-2
K ¹	Metal components brown paint	PAINT, Bridge 2845 Paint

notes: 1) paint coating material ID: PAINT=asbestos, Bridge 2845 Paint=metals.

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

Due to age of bridge, design plan review was not 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 23 bulk samples were collected from eleven 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 ⁽¹⁾ , %	NESHAP Category ⁽²⁾	Friability ⁽³⁾
A	ABT-1	Abutment	Not detected	N/A	non-friable
	ABT-2				
	ABT-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	WW-1	Wing walls	Not detected	N/A	non-friable
	WW-2				
	WW-3				
E	PARA-1	Parapet	Not detected	N/A	non-friable
	PARA-2				
	PARA-3				
F	COL-1	Piers	Not detected	N/A	non-friable
	COL-2				
	COL-3				
G	EXP-1	Brown fibrous expansion joint	Not detected	N/A	friable
H	EXP-2	Brown fibrous expansion joint	Not detected	N/A	friable
I	TX-1	Gray cementous texturing	Not detected	N/A	non-friable
J	TX-2	Gray cementous texturing	Not detected	N/A	non-friable
K	PAINT	Brown paint	Not detected	N/A	non-friable

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

One composite sample from the coating material applied to the concrete components “Bridge 2845 Paint” was collected for analysis. The composite samples were analyzed for total arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury. Based on the EPA’s definition of LBP, the paint coating material is a LBP. Analytical results are included in Appendix D and laboratory results are summarized in Table 3.

Table 3 – Summary of Coating Material

Sample Identification	Material Description/Sample Location	Heavy Metal Results ⁽¹⁾ , mg/Kg							
		As	Ba	Cd	Cr	Pb	Se	Ag	Hg
Bridge 2845 Paint	Brown paint on metal components	nd	nd	nd	nd	nd	nd	nd	nd

notes: (1) EPA test method 6020.
nd – not detected above method limits.

6.3 Recommendations

No ACMs were identified. Heavy metals were not found in paint coating materials. Consequently, there are no recommendations at this time.

Appendix A
Bridge Location Map

Bridge G-2845 E/W
Highway 50
Hazen, Nevada



Appendix B
Bridge Photo Log

PHOTOGRAPHIC DOCUMENTATION

**NDOT Hazardous Materials Survey
Bridge G-2845 E/W
Highway 50
Hazen, Nv**

PHOTO 1

DATE:
2/17/2021

DIRECTION:
South

TAKEN BY:
Brian Reed

DESCRIPTION:
Bridges G-2845
East & West.



PHOTO 2

DATE:
2/17/2021

DIRECTION:
Southeast

TAKEN BY:
Brian Reed

DESCRIPTION:
Support columns,
underside of
bridges and
abutment.



PHOTOGRAPHIC DOCUMENTATION

**NDOT Hazardous Materials Survey
Bridge G-2845 E/W
Highway 50
Hazen, Nv**

PHOTO 3

DATE:
2/17/2021

DIRECTION:
South

TAKEN BY:
Brian Reed

DESCRIPTION:
Parapet, wingwall, I-beam, and stemwall.



PHOTO 4

DATE:
2/17/2021

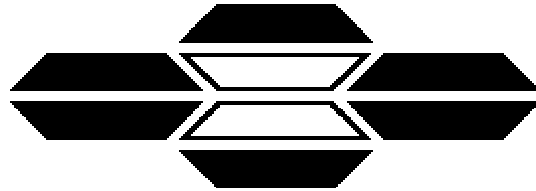
DIRECTION:
Northwest

TAKEN BY:
Brian Reed

DESCRIPTION:
Bridge deck.



Appendix C
Asbestos Sample(s)
Analytical Results



ASBESTOS TEM LABORATORIES, INC.

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

Report No. 143843

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-19-21

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

RE: LABORATORY JOB # 9092-00056
Polarized light microscopy analytical results for 23 bulk sample(s).
Job Site: Bridge #7845 E/W, Hazen
Job No.:
Report No.: 143843

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

Page: 1 of 3

Contact: Robert Piekarz	Samples Indicated: 23	Report No. 143843
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 23	Date Submitted: Feb-17-21
	Split Layers Analyzed: 0	Date Reported: Feb-19-21
	Job Site / No. Bridge #7845 E/W, Hazen	

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA	DESCRIPTION
		1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	FIELD LAB
ABT-1 Lab ID # 9092-00056-001	None Detected	1) None Detected 2) 99-100% Qtz, Calc	Tan concrete - abutment
		3) 2-17-21 4) Feb-19-21	Concrete-Tan
ABT-2 Lab ID # 9092-00056-002	None Detected	1) None Detected 2) 99-100% Qtz, Calc <i>Fib. Op. Prop. Same as in</i>	Tan concrete - abutment
		3) 2-17-21 4) Feb-19-21	Concrete-Tan
ABT-3 Lab ID # 9092-00056-003	None Detected	1) None Detected 2) 99-100% Qtz, Calc <i>Fib. Op. Prop. Same as in</i>	Tan concrete - abutment
		3) 2-17-21 4) Feb-19-21	Concrete-Tan
PAINT Lab ID # 9092-00056-004	None Detected	1) None Detected 2) 99-100% Paint, Opq	Brown paint
		3) 2-17-21 4) Feb-19-21	Paint-Brown
EXP-1 Lab ID # 9092-00056-005	None Detected	1) 70-80% Cellulose 2) 20-30% Opq	Brown fiberboard - expansion joints
		3) 4) Feb-19-21	Fiberboard-Brown
EXP-2 Lab ID # 9092-00056-006	None Detected	1) 70-80% Cellulose 2) 20-30% Opq <i>Fib. Op. Prop. Same as in</i>	Brown fiberboard - expansion joints
		3) 2-17-21 4) Feb-19-21	Fiberboard-Brown
TX-1 Lab ID # 9092-00056-007	None Detected	1) None Detected 2) 99-100% Calc	Grey texturing-throughout bridge
		3) 2-17-21 4) Feb-19-21	Texture-Grey
TX-2 Lab ID # 9092-00056-008	None Detected	1) None Detected 2) 99-100% Calc <i>Fib. Op. Prop. Same as in</i>	Grey texturing-throughout bridge
		3) 2-17-21 4) Feb-19-21	Texture-Grey
PARA-1 Lab ID # 9092-00056-009	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq	Grey concrete - parapet
		3) 2-17-21 4) Feb-19-21	Concrete-Grey
PARA-2 Lab ID # 9092-00056-010	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Grey concrete - parapet
		3) 2-17-21 4) Feb-19-21	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

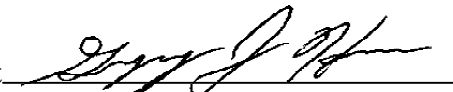
EPA Method 600/R-93/116 or 600/M4-82-020

Page: 2 of 3

Contact: Robert Piekarz	Samples Indicated: 23	Report No. 143843
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 23 Split Layers Analyzed: 0	Date Submitted: Feb-17-21 Date Reported: Feb-19-21
	Job Site / No. Bridge #7845 E/W, Hazen	

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION
			FIELD LAB
PARA-3 Lab ID # 9092-00056-011	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - parapet
			Concrete-Grey
COL-1 Lab ID # 9092-00056-012	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - support columns
			Concrete-Grey
COL-2 Lab ID # 9092-00056-013	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - support columns
			Concrete-Grey
COL-3 Lab ID # 9092-00056-014	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - support columns
			Concrete-Grey
STEM-1 Lab ID # 9092-00056-015	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - stem wall
			Concrete-Grey
STEM-2 Lab ID # 9092-00056-016	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - stem wall
			Concrete-Grey
STEM-3 Lab ID # 9092-00056-017	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - stem wall
			Concrete-Grey
DECK-1 Lab ID # 9092-00056-018	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - bridge deck
			Concrete-Grey
DECK-2 Lab ID # 9092-00056-019	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - bridge deck
			Concrete-Grey
DECK-3 Lab ID # 9092-00056-020	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq Fib. Op. Prop. Same as in 3) 2-17-21 4) Feb-19-21	Grey concrete - bridge deck
			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

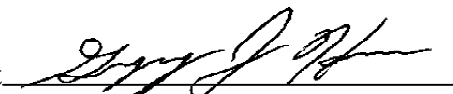
EPA Method 600/R-93/116 or 600/M4-82-020

Page: 3 of 3

Contact: Robert Piekarz	Samples Indicated: 23	Report No. 143843
Address: Nevada Department of 1263 South Stewart Street Carson City, NV 89712	Reg. Samples Analyzed: 23	Date Submitted: Feb-17-21
	Split Layers Analyzed: 0	Date Reported: Feb-19-21
Job Site / No. Bridge #7845 E/W, Hazen		

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 # 9092-00056-021	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Grey concrete - wing walls
		3) 2-17-21 4) Feb-19-21	Concrete-Grey
WW-2 Lab ID # 9092-00056-022	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Grey concrete - wing walls
		3) 2-17-21 4) Feb-19-21	Concrete-Grey
WW-3 Lab ID # 9092-00056-023	None Detected	1) None Detected 2) 99-100% Qtz, Calc, Opq <i>Fib. Op. Prop. Same as in</i>	Grey concrete - wing walls
		3) 2-17-21 4) Feb-19-21	Concrete-Grey
Lab ID #		1)	
		2)	
Lab ID #		3)	
		4)	
Lab ID #		1)	
		2)	
Lab ID #		3)	
		4)	
Lab ID #		1)	
		2)	
Lab ID #		3)	
		4)	
Lab ID #		1)	
		2)	
Lab ID #		3)	
		4)	
Lab ID #		1)	
		2)	
Lab ID #		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: Brian Reed/Robert Piekarz		Project Name: <u>Bridge 2845 F/W</u>		Project Number:		Date Sampled: <u>7/17/21</u>	
Phone: 775-888-7892		Fax: 775-888-7104		Analysis Type: Asbestos		Air	
Turn-A-Round Time:		Rush		24-Hour		2 DAY	
Project Location: <u>Hoshon, NV</u>		Requests:		Sample Location		Verbal	
Lab #		Sample ID		Material Description		Location of Materials	
						Test to First Positive:	
						Quantity	
						Condition	
						Friable	
						Yes	
						No	
						Asbestos %	
1	Abt-1	Tan concrete	Abutment	Bridge 2845 F/W	1	G	N
2	Abt-2	↓	↓		1	G	N
3	Abt-3	↓	↓		1	G	N
4	Paint	brown Paint	"I" beams		1	G	N
5	Exp-1	brown Fiberboard	Expansion Joints		1	G	N
6	Exp-2	↓	↓		1	G	N
7	Tx-1	Grey texturing	throughout bridge		1	G	N
8	Tx-2	↓	↓		1	G	N
9	Para-1	grey concrete	Parapet		1	G	N
10	Para-2	↓	↓		1	G	N

Comments/Additional Information

MATERIAL		CONDITION		UNITS		ASBESTOS %	
PH - Pipe Fitted Insulation	VT - Vinyl Tile	G - Good	LF - Linear Feet	A - Asbestos			
PI - Pipe Run Insulation	M - Mastic	D - Damaged	SF - Square Feet	C - Chrysotile Asbestos			
LI - 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						
	IC - Joint Compound						

Relinquished By: J. Reed Relinquished By: _____
 Date/Time: 7/17/21 10:17 Date/Time: _____
 Received By: J. Reed 217-21 10:47am Received By: _____
ATEM

Survey Data

Inspectors: Brian Reed/Robert Piekartz		Project Name: <u>Bridge 2845 E/W</u>		Project Number:		Date Sampled: <u>2/17/21</u>			
Phone: 775-888-7892		Fax: 775-888-7104		Analysis Type: Asbestos		Air			
Turn-A-Round Time:		Rush		24-Hour		Bulk			
Sample ID		Material Description		Requests:		Test to First Positive:			
Lab #	Sample ID	Material Description	Sample Location	Verbal	Location of Materials	Quantity	Condition	Friable	Asbestos %
1	Pave-3	grey concrete	Parapet		Bridge 2845 E/W	1	G	N	
2	Col-1		Support columns			1	G	N	
3	Col-2		↓			1	G	N	
4	Col-3		↓			1	G	N	
5	Stem-1		Stem wall			1	G	N	
6	Stem-2		↓			1	G	N	
7	Stem-3		↓			1	G	N	
8	Deck-1		Bridge Deck			1	G	N	
9	Deck-2		↓			1	G	N	
10	Deck-3		↓			1	G	N	

Comments/Additional Information

MATERIAL	CONDITION	UNITS	ASBESTOS %
PF1 - Pipe Fitted Insulation	G - Good	LF - Linear Feet	A - Asbestos Asbestos
PR - Pipe Run Insulation	D - Damaged	SF - Square Feet	C - Chrysotile Asbestos
DI - Duct Insulation	SD - Significant Damage	CF - Cubic Feet	NDA - No Asbestos Detected
TI - Tank Insulation			Assumed ACM - No Samples Taken
EJ - Expansion Joint			
BI - Boiler Insulation			
P - Plaster			
JC - Joint Compound			

Relinquished By: [Signature] Relinquished By: _____
 Date/Time: 2/17/21 10:43 Date/Time: _____
 Received By: Jeffrey Received By: _____
 10:47

Survey Data

Lab #	Sample ID	Material Description	Rush	24-Hour	Project Name:	Project Number:	Date Sampled:			
Turn-A-Round Time:	Sample Location	Requests:	Verbal	Fax	Analysis Type: Asbestos	Test to First Positive:	Air			
						Quantity	Condition	Friable	Yes	Asbestos %
1	WW-1	grey concrete			Bridge 2845 E/W	1	G	N		
2	WW-2				Wingwalls	1	G	N		
3	WW-3					1	G	N		
4										
5										
6										
7										
8										
9										
10										

Comments/Additional Information

MATERIAL	CONDITION	UNITS	ASBESTOS %
PF1 - Pipe Fitted Insulation PH1 - Pipe Hum Insulation DI - Duct Insulation TI - Tank Insulation EJ - Expansion Joint HI - Boiler Insulation VT - Vinyl Tile M - Mastic CBM - Cove Base Mastic AT - Acoustical Tile SA - Spray Acoustic W - Wall P - Plaster GA - Gasket D - Debris TS1 - Thermal System Insulation R - Roof DW - Drywall JC - Joint Compound	G - Good D - Damaged SD - Significant Damage	LF - Linear Feet SF - Square Feet CF - Cubic Feet	A - Asbestos C - Chrysotile Asbestos NDA - No Asbestos Detected Assumed ACM - No Samples Taken

Relinquished By: [Signature]
 Date/Time: 5/17/21 10:45
 Received By: [Signature]
 Date/Time: 10:47

Appendix D
Material Coating Sample(s)
Analytical Results



Alpha Analytical, Inc.
255 Glendale Ave, #21
Sparks, Nevada 89431
TEL: (775) 355-1044 FAX: (775) 355-0406
Website: www.alpha-analytical.com

February 19, 2021

Robert Piekarz
Nevada DOT Environmental (NDOT)
1263 S. Stewart St.
Carson City, NV 89712
TEL: (775) 888-7692
FAX: (775) 888-7104

RE:

Order No.: NDO2102083

Dear Robert Piekarz:

The result of this report apply to the sample(s) as received.

There were no problems with the analytical events associated with this report unless noted.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink that reads "Randy Gardner".

Randy Gardner
Laboratory Manager
255 Glendale Ave, #21
Sparks, Nevada 89431



Alpha Analytical, Inc.
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Analytical Report

WO#: NDO2102083

Report Date: 2/19/2021

CLIENT: Nevada DOT Environmental (NDOT)

Collection Date: 2/17/2021 9:45:00 AM

Project:

Lab ID: 2102083-01

Matrix: OTHER

Client Sample ID Bridge 2845 Paint

Analyses	Result	RL	Qual	Units	Date Analyzed	Method
Chromium (Cr)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Arsenic (As)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Selenium (Se)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Silver (Ag)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Cadmium (Cd)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Barium (Ba)	ND	1.0		mg/L	2/19/2021	Metals by EPA 6020
Mercury (Hg)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020
Lead (Pb)	ND	0.10		mg/L	2/19/2021	Metals by EPA 6020

NOTES:

This analysis was performed on a TCLP extract.



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QC SUMMARY REPORT

WO#: 2102083

19-Feb-21

Client: Nevada DOT Environmental (NDOT)

Project:

TestCode: METALS_T_6020

Sample ID: MB-12417	SampType: MBLK	TestCode: METALS_T_6	Units: mg/L
Client ID: PBW	Batch ID: 12417	TestNo: E200.8	
Prep Date: 2/19/2021	RunNo: 11020	SeqNo: 311475	
Analysis Date: 2/19/2021			

Analyte	Result	PQL	SPK Value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium (Cr)	ND	0.01									
Arsenic (As)	ND	0.005									
Selenium (Se)	ND	0.005									
Silver (Ag)	ND	0.005									
Cadmium (Cd)	ND	0.002									
Barium (Ba)	ND	0.005									
Mercury (Hg)	ND	0.001									
Lead (Pb)	ND	0.005									

Sample ID: LCS-12417	SampType: LCS	TestCode: METALS_T_6	Units: mg/L
Client ID: LCSW	Batch ID: 12417	TestNo: E200.8	
Prep Date: 2/19/2021	RunNo: 11020	SeqNo: 311476	
Analysis Date: 2/19/2021			

Analyte	Result	PQL	SPK Value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium (Cr)	0.242	0.01	0.25	0	96.9	79.51	120.49				
Arsenic (As)	0.247	0.005	0.25	0	98.9	79.51	120.49				
Selenium (Se)	0.246	0.005	0.25	0	98.4	79.51	120.49				
Silver (Ag)	0.228	0.005	0.25	0	91.3	79.51	120.49				
Cadmium (Cd)	0.228	0.002	0.25	0	91.0	79.51	120.49				
Barium (Ba)	0.226	0.005	0.25	0	90.6	79.51	120.49				
Mercury (Hg)	0.00463	0.001	0.005	0	92.7	79.51	120.49				
Lead (Pb)	0.226	0.005	0.25	0	90.4	79.51	120.49				

Sample ID: 2102085-01AMSD	SampType: MSD	TestCode: METALS_T_6	Units: mg/L
Client ID: BatchQC	Batch ID: 12417	TestNo: E200.8	
Prep Date: 2/19/2021	RunNo: 11020	SeqNo: 311479	
Analysis Date: 2/19/2021			

Analyte	Result	PQL	SPK Value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium (Cr)	0.252	0.01	0.25	0.0069	98.2	74.51	125.49	0.255	1.1	20	
Arsenic (As)	0.248	0.005	0.25	0	99.2	74.51	125.49	0.257	3.7	20	
Selenium (Se)	0.248	0.005	0.25	0	99.3	74.51	125.49	0.251	1.2	20	
Silver (Ag)	0.234	0.005	0.25	0	93.6	74.51	125.49	0.239	2.3	20	
Cadmium (Cd)	0.232	0.002	0.25	0	92.9	74.51	125.49	0.237	2	20	
Barium (Ba)	0.47	0.005	0.25	0.237	93.5	74.51	125.49	0.482	2.4	20	
Mercury (Hg)	0.00468	0.001	0.005	0	93.6	74.51	125.49	0.00482	2.9	20	
Lead (Pb)	0.233	0.005	0.25	0	93.1	74.51	125.49	0.239	2.6	20	

Qualifiers: B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits



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QC SUMMARY REPORT

WO#: 2102083
 19-Feb-21

Client: Nevada DOT Environmental (NDOT)

Project:

TestCode: METALS_T_6020

Sample ID: 2102085-01AMSD	SampType: MSD	TestCode: METALS_T_6	Units: mg/L								
Client ID: BatchQC	Batch ID: 12417	TestNo: E200.8									
Prep Date: 2/19/2021	RunNo: 11020	SeqNo: 311479									
Analysis Date: 2/19/2021											
Analyte	Result	PQL	SPK Value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2102085-01AMS	SampType: MS	TestCode: METALS_T_6	Units: mg/L								
Client ID: BatchQC	Batch ID: 12417	TestNo: E200.8									
Prep Date: 2/19/2021	RunNo: 11020	SeqNo: 311478									
Analysis Date: 2/19/2021											
Analyte	Result	PQL	SPK Value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium (Cr)	0.255	0.01	0.25	0.0069	99.3	74.51	125.49				
Arsenic (As)	0.257	0.005	0.25	0	103	74.51	125.49				
Selenium (Se)	0.251	0.005	0.25	0	101	74.51	125.49				
Silver (Ag)	0.239	0.005	0.25	0	95.8	74.51	125.49				
Cadmium (Cd)	0.237	0.002	0.25	0	94.8	74.51	125.49				
Barium (Ba)	0.482	0.005	0.25	0.237	98.2	74.51	125.49				
Mercury (Hg)	0.00482	0.001	0.005	0	96.4	74.51	125.49				
Lead (Pb)	0.239	0.005	0.25	0	95.5	74.51	125.49				

Qualifiers:
 B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits



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Definition Only

WO#: 2102083
Date: 2/19/2021

Definitions:

ND = Not Detected

C = Reported concentration includes additional compounds uncharacteristic of common fuels and lubricants.

D = Reporting Limits were increased due to high concentrations of non-target analytes.

H = Reporting Limits were increased due to the hydrocarbons present in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

K = DRO concentration may include contributions from lighter-end hydrocarbons (e.g. gasoline) that elute in the DRO range.

L = DRO concentration may include contributions from heavier-end hydrocarbons (e.g. motor oil) that elute in the DRO range.

O = Reporting Limits were increased due to sample foaming.

V = Reporting Limits were increased due to high concentrations of target analytes.

X = Reporting Limits were increased due to sample matrix interferences.

Z = DRO concentration may include contributions from lighter-end (e.g. gasoline) and heavier-end (e.g. motor oil) hydrocarbons that elute in the DRO range.

S50 = The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The laboratory control sample was acceptable.

S51 = Surrogate recovery could not be determined due to the presence of co-eluting hydrocarbons.

S52 = Surrogate recovery was above laboratory acceptance limits. Probable matrix effect.

S53 = Surrogate recovery was below laboratory acceptance limits. Probable matrix effect.

S54 = Surrogate recovery was below laboratory acceptance limits.

S55 = Surrogate recovery was above laboratory acceptance limits.

WORKORDER SUMMARY

Report CC's Robert Piekarz

NV

WorkOrder: NDO2102083
 Report Due By: 03-Mar-21
 EDD Required: NO

Alpha Analytical, Inc.

255 Glendale Ave, #21 Sparks, Nevada 89431
 TEL: (775) 355-1044 FAX: (775) 355-0406

Report Attention: Robert Piekarz

Client: Nevada DOT Environmental (NDOT)
 1263 S. Stewart St.
 Carson City, NV 89712

TEL: 7758887692
 FAX: 7758887104
 ProjectNo:

Date Received: 17-Feb-21

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles			Requested Tests			Sample Remarks
				Alpha	Sub	TAT	METALS_T_60 20			
NDO2102083-01	Bridge 2845 Paint	OTHER	2/17/2021 9:45:00 AM	1	0	10	A - TCLP_8			

Comments: Paint Chips

Logged in by: 	Print Name: <u>Tammy Brace</u>	Company: <u>Alpha Analytical, Inc.</u>	Date/Time: <u>2/17/21 11:40</u>
---	--------------------------------	--	---------------------------------

NOTE: Samples are discarded 60 days after sample receipt unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
 Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Company: Nevada Department of Transportation
 Attn: Robert Pekarz
 Address: 1263 S. Stewart Street
 City, State, Zip: Carson City, NV 89712
 Phone Number: 775-888-7692 Fax:

Alpha Analytical, Inc.
 Main Laboratory: 255 Glendale Ave, Suite 21 Sparks, NV 89431

Phone: 775-355-1044
 Fax: 775-355-0406

Satellite Service Centers:

Northern CA: 9891 Horn Road, Suite C, Rancho Cordova, CA 95827
 Southern NV: 6255 McLeod Ave, Suite 24, Las Vegas, NV 89120
 Southern CA: 1007 E. Dominguez St., Suite O, Carson, CA 90746

Phone: 916-366-9089
 Phone: 702-736-7522
 Phone: 310-803-7761



QC Deliverable Info:

EDD Required? Yes / No EDF Required? Yes / No

Report Attention/Project Manager:

Name: Robert Pekarz
 Email Address: rpekarz@dot.state.nv.us
 Phone #: 775-888-7692
 Cell #:

Job and Purchase Order Info:

Job #
 Job Name:
 P.O. #:
 Net Applicable

Consultant/Client Info:

Company: Same As Above
 Address:
 City, State, Zip:
 Samples Collected from which State? (circle one) AZ CA NV WA ID OR DOD Site Other

Global ID:
 Data Validation Level: III or IV

Analysis Requested				Remarks		
Time Date Sampled (HH:MM)	Matrix* (See Key Below)	Lab ID Number (For Lab Use Only)	Sample Description	TAT	Field Filtered?	# Containers** (See Key Below)
0945 2/17 01	OT	NDO 2102 083-01	bridge 2345 Paint	stand	1	1 OT-1 X

ADDITIONAL INSTRUCTIONS:

I (field sampler) attest to the validity and authenticity of this sample(s). I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. NAC 445.0636 (c) (2).

Sampled By: [Signature]
 Relinquished by (Signature/Affiliation): [Signature]
 Relinquished by (Signature/Affiliation): [Signature]
 Relinquished by (Signature/Affiliation): [Signature]

Date: 2/17/21
 Date: 2/17/21
 Date: 2/17/21
 Time: 1040

Received by (Signature/Affiliation): [Signature]
 Received by (Signature/Affiliation): [Signature]
 Received by (Signature/Affiliation): [Signature]
 Date: 2-17-21
 Date: 2-17-21
 Date: 2-17-21
 Time: 1040
 Time: 1040
 Time: 1040

* Key: AO - Aqueous WA - Waste OT - Other
 **: L - Litter V - VOA S - Soil Jar O - Orbo T - Tedlar B - Brass P - Plastic OT - Other
 NOTE: Samples are discarded 60 days after sample receipt unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Appendix E
Inspector Certifications
and
Licenses

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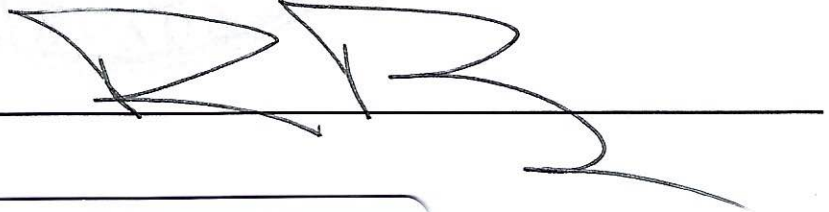
STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
Occupational Safety and Health Administration
Asbestos Control Program

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

License No. IJ-1049

Expiration Date 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**