BRIDGE G-1748 N/S

HAZARDOUS MATERIALS SURVEY

BRIDGE INSPECTION AND SURVEY FOR PRESENCE OF ASBESTOS AND HEAVY METAL(S), FEBRUARY 2023

NDOT Hazardous Materials Section
1263 South Stewart Drive
Carson City, NV 89712

EXECUTIVE SUMMARY

The inspection (survey) for hazardous materials was conducted on bridge G-1748 N/S on February 1, 2023, by NDOT personnel from the Hazardous Materials section. The bridge was 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.
- No heavy metal containing coating materials were identified.

1.0 INTRODUCTION

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

- G-1748 N (Northbound US 395, Panther Branch UPRR Overpass)
- G-1748 S (Southbound US 395, Panther Branch UPRR Overpass)

The survey was conducted on February 1, 2023, by NDOT personnel. Suspect Asbestos Containing Material (ACM) were identified and appropriately sampled. Coating materials, if present and suspect, were sampled and analyzed for heavy metals including lead.

Bulk asbestos samples were analyzed by a National Voluntary Laboratory Accredited laboratory by polarized light microscopy (PLM). Lead 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 G-1748 N/S was constructed in 1988. The bridge, in its entirety, is constructed of concrete including substructure, piers, parapet, abutment, and concrete bridge deck overlain with asphaltic concrete. Two types of expansion joints were identified, fiberboard and neoprene with epoxy caulking.

3.0 FIELD ACTIVITIES

The survey was conducted by NDOT personal, 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.

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, G-1748 N/S

Homogeneous Area	Description	Sample IDs
A	Concrete bridge deck and substructure	BD-1, BD-2, BD-3
B	Concrete abutments	ABT-1, ABT-2, ABT-3
C	Concrete piers	PR-1, PR-2, PR-3
D	Concrete parapet	PT-1, PT-2, PT-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 sample was submitted to Alpha Analytical and analyzed for heavy metals including lead 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

Design plans were not reviewed as part of this survey.

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 4 homogeneous areas of suspect ACM. No ACMs 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, Bridge G-1748 N/S

Homogeneous Sampling Area	Sample ID*	Material Description/Sample Location	Lab Results(1), % Asbestos	NESHAP Category(2)	Friability(3)
A	BD-1	Concrete substructure and bridge deck	Not detected	N/A	non-friable
	BD-1				
	BD-3				
B	ABT-1	Red concrete abutments	Not detected	N/A	non-friable
	ABT-2				
	ABT-3				
C	PR-1	Concrete piers	Not detected	N/A	non-friable
	PR-2				
	PR-3				
D	PT-1	Concrete parapet	Not detected	N/A	non-friable
	PT-2				
	PT-3				

notes: (1) PLM unless otherwise noted.
(2) NESHAAP 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.

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 readily recognized and or discreet coating material was identified as suspect ACM or potentially containing elevated levels of heavy metals.

6.3 Recommendations

As there were no ACMs identified, there are no recommendations at this time.

Appendix A
Bridge Location Map

Bridges G-1748 N/S
Panther Branch UPRR
Overpass, US 395
Golden Valley, NV

Appendix B
Bridge Photo Log

PHOTOGRAPHIC DOCUMENTATION
Bridge G-1748 N/S
Panther Branch UPRR Overpass, US 395
Golden Valley, NV

PHOTO 1

DATE:
02/01/2023

DIRECTION:
West

TAKEN BY:
Rob Piekarz

DESCRIPTION:
Bridge 1748 North substructure

PHOTO 2

DATE:
02/01/2023

DIRECTION:
South

TAKEN BY:
Rob Piekarz

DESCRIPTION:
Bridge 1748 North

PHOTOGRAPHIC DOCUMENTATION
Bridge G-1748 N/S
Panther Branch UPRR Overpass, US 395
Golden Valley, NV

PHOTO 3

DATE:
02/01/2023

DIRECTION:
West

TAKEN BY:
Rob Piekarz

DESCRIPTION:
Bridge 1748 South, (note: graffiti cover paint peeling not LBP)

PHOTO 4

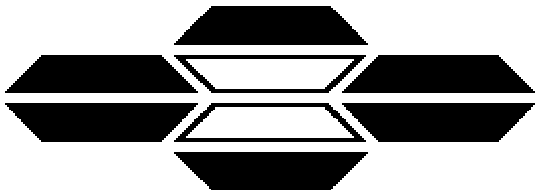
DATE:
02/01/2023

DIRECTION:
Southwest

TAKEN BY:
Rob Piekarz

DESCRIPTION:
Bridge 1748 South

Appendix C
Asbestos Sample(s)
Analytical Results



ASBESTOS TEM LABORATORIES, INC.

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

Report No. 150454

1320 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-06-23

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

RE: LABORATORY JOB # 9092-00084
Polarized light microscopy analytical results for 24 bulk sample(s).
Job Site: US 395 N. Panther Valley
Job No.:
Report No.: 150454

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.

NVLAP Lab Code 200104-0

POLARIZED LIGHT MICROSCOPY ANALYTICAL REPORT

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

Contact: Rob Piekarz

Address: Nevada Department of
1263 South Stewart Street
Carson City, NV 89712

Samples Indicated: 24
Reg. Samples Analyzed: 24
Split Layers Analyzed: 0

Job Site / No. US 395 N. Panther Valley

Report No. **150454**
Date Submitted: Feb-01-23
Date Reported: Feb-06-23

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD / LAB
1 Lab ID # 9092-00084-001	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-1; I-1093 Concrete-Grey
2 Lab ID # 9092-00084-002	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-2; I-1093 Concrete-Grey
3 Lab ID # 9092-00084-003	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-3; I-1093 Concrete-Grey
4 Lab ID # 9092-00084-004	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	BD-1; I-1093 Concrete-Grey
5 Lab ID # 9092-00084-005	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	BD-2; I-1093 Concrete-Grey
6 Lab ID # 9092-00084-006	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	BD-3; I-1093 Concrete-Grey
7 Lab ID # 9092-00084-007	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-1; I-1093 Concrete-Grey
8 Lab ID # 9092-00084-008	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-2; I-1093 Concrete-Grey
9 Lab ID # 9092-00084-009	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-3; I-1093 Concrete-Grey
10 Lab ID # 9092-00084-010	None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PT-1; I-1093 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

Contact: Rob Piekarz

Address: Nevada Department of
1263 South Stewart Street
Carson City, NV 89712

Samples Indicated: 24
Reg. Samples Analyzed: 24
Split Layers Analyzed: 0

Job Site / No. US 395 N. Panther Valley

Report No. **150454**
Date Submitted: Feb-01-23
Date Reported: Feb-06-23

SAMPLE ID	ASBESTOS % TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD / LAB
11 Lab ID # 9092-00084-011	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PT-2; I-1093 Concrete-Grey
12 Lab ID # 9092-00084-012	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PT-3; I-1093 Concrete-Grey
13 Lab ID # 9092-00084-013	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-1; G-1748 Concrete-Grey
14 Lab ID # 9092-00084-014	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-2; G-1748 Concrete-Grey
15 Lab ID # 9092-00084-015	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PR-3; G-1748 Concrete-Grey
16 Lab ID # 9092-00084-016	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-1; G-1748 Concrete-Grey
17 Lab ID # 9092-00084-017	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-2; G-1748 Concrete-Grey
18 Lab ID # 9092-00084-018	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	ABT-3; G-1748 Concrete-Grey
19 Lab ID # 9092-00084-019	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PT-1; G-1748 Concrete-Grey
20 Lab ID # 9092-00084-020	**None Detected**	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other 3) 4) Feb-06-23	PT-2; G-1748 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

Contact: Rob Piekarz

Address: Nevada Department of
1263 South Stewart Street
Carson City, NV 89712

Samples Indicated: 24
Reg. Samples Analyzed: 24
Split Layers Analyzed: 0

Job Site / No. US 395 N. Panther Valley

Report No. **150454**
Date Submitted: Feb-01-23
Date Reported: Feb-06-23

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD LAB
21		None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	PT-3; G-1748
Lab ID # 9092-00084-021			3) 4) Feb-06-23	Concrete-Grey
22		None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	BD-1; G-1748
Lab ID # 9092-00084-022			3) 4) Feb-06-23	Concrete-Grey
23		None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	BD-2; G-1748
Lab ID # 9092-00084-023			3) 4) Feb-06-23	Concrete-Grey
24		None Detected	1) <1% Cellulose 2) 100-100% Clay, Qtz, Gyp, Other	BD-3; G-1748
Lab ID # 9092-00084-024			3) 4) Feb-06-23	Concrete-Grey
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			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

ASBESTOS TEM LABORATORIES, INC

1350 Freeport Blvd., Unit #104 * Sparks, NV 89431 * Ph: (775) 359-3377 * Fax: (775) 359-2798
Home office at: 3431 Ettie Street * Oakland, CA 94608 * Ph: (510) 704-8930 * Fax: (510) 704-8429

*** BULK SAMPLE SUBMISSION FORM / CHAIN-OF-CUSTODY ***

Company: NDOT ____ 2 hr ____ 4 hr ____ 8 hr ____ 24 hr X 2 Day ____ 3 Day

Address: 1263 S Stewart St Job Site: US 395 N Panther Valley

City-State-Zip: Carson City NV 89712 Job No: ____ P.O. #: ____

Contact Person: Rob Piekarz Phone: 775 588-7692 Fax: ____

Email: RPiekarz@dot.NV.GOV Sheet 1 of 2

Sample Number	Sample Description	Sample Location
1	ABT-1	I-1093
2	ABT-2	↑
3	ABT-3	
4	BD-1	
5	BD-2	
6	BD-3	
7	PR-1	
8	PR-2	
9	PR-3	
10	PT-1	
11	PT-2	↓
12	PF3	I-1093
13	PR-1	G-1748
14	~~RF~~ PR-2	↑
15	PR-3	
16	ABJ-1	
17	ABT-2	↓
18	ABT-3	G-1748
	See Sheet 2 of 2	

Special Instructions: ____

Relinquished by	Date / Time	Received by	Date / Time
Name/Company: Casey Lent NDOT	02/01/23 11:25	Name/Company: ATEM	2/1/23 11:25AM
Signature:		Signature:	
Name/Company:		Name/Company:	
Signature:		Signature:	

ASBESTOS TEM LABORATORIES, INC

1350 Freeport Blvd., Unit #104 * Sparks, NV 89431 * Ph: (775) 359-3377 * Fax: (775) 359-2798
Home office at: 3431 Ettie Street * Oakland, CA 94608 * Ph: (510) 704-8930 * Fax: (510) 704-8429

*** BULK SAMPLE SUBMISSION FORM / CHAIN-OF-CUSTODY ***

Company: NDOT — ___ 2 hr ___ 4 hr ___ 8 hr ___ 24 hr X 2 Day ___ 3 Day

Address: 1263 S Stewart St — Job Site: US 395 N Panther Valley

City-State-Zip: Carson City, NV 89712 — Job No: ___ P.O. #: ___

Contact Person: Rob Piekarz — Phone: 775-588-7692 — Fax: ___

Email: RPiekarz@DOT.NV.GOV — Sheet 2 of 2

Sample Number	Sample Description	Sample Location
19	PT-1	G-1748
20	PT-2	↑
21	PT-3	↕
22	BD-1	↕
23	BD-2	↕
24	BD-3	G-1748

Special instructions: ___

Relinquished by	Date / Time	Received by	Date / Time
Name/Company: Casey Lest NDOT	02/01/23 11:25	Name/Company: ATEM	02/01/23 11:25am
Signature:		Signature:	
Name/Company:		Name/Company:	
Signature:		Signature:	

Appendix D

Inspector Certifications and Licenses

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 11/09/2023

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:	**Reno, Nevada**	**Expiration: November 9, 2023**
Dates:	**November 9, 2022**	
Director of Training: John McGinnis		

Certificate Number **51663 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 9, 2023**
Dates:	**November 9, 2022**	

Director of Training: John McGinnis

John McGinnis

Certificate Number **51677 PR**