



**PRE-DEMOLITION/RENOVATION
ASBESTOS AND LEAD-BASED PAINT
INSPECTION REPORT FOR
COLORADO DEPARTMENT OF
TRANSPORTATION BRIDGE STRUCTURE
H-17-AI**

**I-25 and Jackson Creek Intersection
Mile Marker 157.703**

STRUCTURE ID: H-17-AI

WALSH Project Number: WA-000944-0186

July 13, 2012

Prepared for:

Mr. Phillip Kangas
Colorado Department of Transportation
Hazardous Waste Management Supervisor
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Environmental Scientists and Engineers, LLC

**PRE-DEMOLITION/RENOVATION SPECIFIC
ASBESTOS AND LEAD-BASED PAINT
INSPECTION REPORT
FOR
COLORADO DEPARTMENT OF
TRANSPORTATION BRIDGE STRUCTURE H-17-AI
I-25 AND JACKSON CREEK INTERSECTION
COLORADO SPRINGS, COLORADO**

July 13, 2012

Prepared for:
Colorado Department of Transportation

Inspection Conducted and Report Prepared by:

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Submitted by
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Walsh Project WA-000944-0186

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1. EXECUTIVE SUMMARY

1.1. Summary of Work

This report provides an overview of an asbestos and lead paint inspection of Bridge Structure ID H-17-AI, located at the intersection of I-25 and Jackson Creek at Mile Marker 157.703 in Colorado Springs, Colorado (the Site). Walsh Environmental Scientists and Engineers, LLC (Walsh) was contracted by the Colorado Department of Transportation (CDOT) to perform a pre-demolition/renovation inspection to locate asbestos-containing building materials (ACBM) and to conduct a limited screening for Lead-Based Paint (LBP) due to planned demolition/renovation activities. The inspection was conducted in accordance with CDOT Contract No. 201000559 including Exhibit A (statement of work) and in accordance with applicable EPA, OSHA and CDPHE regulations. The inspection was performed on June 29, 2012.

The following were specific structures at the Site included in the demolition/renovation specific inspection:

- Bridge ID: H-17-AI – I-25 and Jackson Creek Intersection in Colorado Springs, Colorado. Mile Marker 157.703

The following were specific structures excluded in the demolition/renovation specific inspection:

- None

1.2. Asbestos-Containing Material

The sampling and inspection process was conducted in accordance with standards of the Environmental Protection Agency (EPA) Asbestos Emergency Hazard Response Act (AHERA) and National Emission Standards for Hazardous Air Pollutants (NESHAPs), Occupational Safety and Health Administration (OSHA) Construction and General Industry Standards for asbestos, Colorado Department of Public Health and Environment (CDPHE) Regulation 8 (Reg. 8), and other applicable industry standards. Asbestos inspection activities were conducted by AHERA and State of Colorado accredited personnel.

The inspection identified nine (9) suspected asbestos-containing homogeneous areas. One (1) functional space was identified and inspected. Nine (9) bulk samples were collected during the inspection. A material is considered to be asbestos-containing building material (ACBM) if the asbestos content is greater than 1% asbestos. Asbestos was not reported in the samples collected during this inspection.

Special Conditions / Observations

In addition to general limitations described in Section 8, the following materials have the potential to be asbestos-containing but cannot be accessed or inspected due to access limitations, operational considerations, or safety issues (e.g. electrical hazards):

Demolition/Renovation Specific Asbestos
Inspection

Section 1 - Page 1

- Packing and gasket material associated with expansion joints within the bridge structure. Other materials not observed during this inspection may be present in spaces that were concealed with concrete and/or asphalt within the structure.

See Section 7 (Recommendations) for requirements prior to demolition activities that may impact ACBM.

1.3. Lead-Based Paint

EPA, HUD and CDPHE define lead-based paint as paint having a lead content of greater than or equal to 1.0 mg/cm² using XRF analysis, or 0.5 weight percent using flame atomic absorption analysis.

Walsh conducted a limited LBP survey at the Site by collecting a limited number of representative paint chip samples that were analyzed using atomic absorption spectrometry (AAS) for lead content. The limited LBP survey was conducted due to planned renovation/demolition of a structure and is solely for general disclosure purposes to provide contractors with information regarding those materials containing the highest levels of lead, to supplement presumption that all painted surfaces contain some level of lead. This disclosure is provided to those employers that may impact painted materials about general conditions that may be encountered for a particular building. The screening is also conducted to provide general information regarding demolition/renovation waste characterization/disposition (proper disposal).

Lead-Based Paint (>0.5% by weight) was not identified during this inspection.

Lead-Containing Paint (<0.5% by weight) was not identified during this inspection.

Demolition activities involving lead-based paint and lead-containing paint (LCP) are covered under the OSHA Construction Industry Standard for Lead (Title 29 of the Federal Code of Regulations, Part 1926.62). This standard addresses such issues as worker training, medical evaluations, personnel protective equipment, exposure assessment, air monitoring, hygiene facilities and practices, and health and safety plans. OSHA regulations do not define a minimum concentration of lead as a threshold for action. Thus, even concentrations below EPA/HUD/CDPHE levels are covered under OSHA regulations.

Additionally, lead-containing materials require a hazardous waste determination pursuant to 40 CFR 262.11, and 40 CFR 261.24. It is a standard industry approach that demolition waste characterization should be performed on structures containing lead-based paint. This procedure is the Toxicity Characteristic Leaching Process (TCLP), where a composite sample representative of all building components to be demolished (i.e. all lead-based paint coated and non-lead-based paint coated materials from the structure) is submitted to the laboratory for analysis. The Toxicity Characteristic (TC) limit for lead is 5ppm in the leachate. Materials that exceed this limit must be disposed of as hazardous waste. Materials that do not exceed this limit may be disposed of as solid waste.

The types and locations of LBP, and regulatory requirements should be disclosed to the demolition contractor and/or salvage contractor to avoid accidental disturbance, and for contractor compliance with applicable regulations (to ensure proper worker protection).

See Section 7 (Recommendations) for requirements prior to demolition activities that may impact LBP.

2. STRUCTURE INFORMATION

A site map showing the location of the structure is provided in the appendices. The following summary provides specific structure, scope of inspection, areas inspected and functional space information relevant to the inspection.

Bridge Structure ID: H-17-AI consists of a concrete rigid frame bridge constructed in 1953 at the intersection of I-25 and Jackson Creek, mile marker 157.703, in Colorado Springs, Colorado. The bridge is 33-feet long and 76-feet wide.



Photo 1 – View of Bridge Structure ID: H-17-AI.

3. FUNCTIONAL SPACE INFORMATION

The following summary provides basic information for specific materials inspected, including location, description, dimensions, and other observations. This summary also identifies those areas that were inaccessible and could not be inspected, which will require inspection prior to renovation activities.

One (1) functional space (bridge) was identified. Nine (9) materials were identified as suspect asbestos-containing materials and sampled during the inspection and are listed below:

- Composite Asphalt
- Composite Asphalt with Tar Layer
- Concrete Substrate
- Hard Concrete Sealant
- White Road Lane Paint over Asphalt
- Yellow Road Lane Paint over Asphalt
- Black Sticky Road Tar
- Black Road Tar
- Dark Gray, Fibrous Vapor Barrier

No other suspect materials were identified during this inspection.

4. INSPECTION METHODOLOGY

4.1. Asbestos-Containing Material

The sampling and destructive investigation process was conducted in accordance with AHERA under Title 40 of the Federal Register, CDPHE Regulation 8, and other applicable industry standards (including EPA, NESHAP, OSHA asbestos regulations, and asbestos regulations.) Asbestos inspection activities were conducted by AHERA and State of Colorado accredited personnel.

The scope of the asbestos inspection was to identify ACBM and included the following steps:

- Visual inspection of all accessible areas of the structure to identify suspect materials.
- Visual inspection of all areas of suspect ACBM.
- Determination of friability by touching all suspect ACBM.
- Development of a sampling plan for each material based on the homogeneous type, friability, and accessibility and material locations. Samples were submitted for laboratory analysis by Polarized Light Microscopy (PLM).
- Inspection in two phases: comprehensive non-destructive inspection for accessible areas, followed by destructive investigation (creating large openings in walls, ceilings, chases, etc) to identify ACBM in previously inaccessible areas.

A homogeneous area (material) is defined as an area containing a material that appears similar throughout with regard to color, texture, and date of application. Individual systems that were inspected, but not suspected to contain asbestos, are not included in this report. Such systems include carpet, fiberglass, plastic, and wood products.

Each type of suspect building material (homogeneous area) was assigned an alpha material code, followed by a number to identify the different varieties of that building material. For example, ceiling tiles are designated by the material code of CT. Each type of ceiling tile was denoted by subsequent “type” number (CT-01, CT-02, etc). Material size, thickness, substrate, material friability, location, and quantity were recorded. Material information was recorded on a room-by-room (functional space) inventory form (and/or Walsh Asbestos Inspection Form).

The homogeneous area was classified into one of three available types of homogeneous material descriptions.

- **Surfacing Material** refers to a wide range of trowel or spray-applied materials typically used for acoustical or fireproofing purposes. Examples include spray-applied fireproofing and acoustical texture ceilings.
- **Thermal System Insulation (TSI)** refers to insulation that is applied to heating or mechanical system components. Examples include pipe, tank and boiler insulation.
- **Miscellaneous Materials** refers to all other materials that do not fall into one of the above categories. Examples include floor tile, adhesives, and ceiling tiles.

Once the homogeneous area was determined it was then classified as friable or nonfriable. The EPA distinguishes between friable and nonfriable forms of ACBM. Friable materials can be crumbled or reduced to powder by hand pressure, whereas nonfriable materials cannot. Friable materials are more likely to be released into the air, especially during renovation and demolition of a structure. Therefore, the distinction between friable and nonfriable homogeneous material is important.

The following Bulk Sampling protocol for friable and Category I and II nonfriable materials was used to determine the number of samples to be collected for friable materials and nonfriable materials deemed potential Regulated Asbestos-Containing Material (RACM, nonfriable materials with potential to be rendered friable during normal demolition).

Bulk Sampling Strategy

Material	Homogeneous Area	Units	Minimum Number of Samples
Friable Surfacing	Less than 1000	SF	3
	1000 to 5000		5
	More than 5000		7
Nonfriable Surfacing		SF	3
Friable and Nonfriable Thermal System Insulation		LF / SF / EA	3*
Friable and Nonfriable Miscellaneous Materials		LF / SF / EA	3*

* One sample was collected for limited quantity replacement or patch (salient) materials.

4.2. Lead-Based Paint

Walsh conducted a limited LBP survey at the site by collecting a limited number of representative paint chip samples that were analyzed by atomic absorption spectrometry (AAS) for lead content. The limited LBP survey was conducted due to planned renovation or demolition of a structure and is solely for general disclosure purposes to provide contractors with information regarding those materials containing the highest levels of lead, to supplement presumption that all painted surfaces contain some level of lead. This disclosure is provided to those employers that may impact painted materials about general conditions that may be encountered for a particular building. The screening is also conducted to provide general information regarding demolition/renovation waste characterization/disposition (proper disposal).

The lead inspection used methods adapted from the Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based paint in Housing, June, 1995.

5. BULK SAMPLING AND LABORATORY ANALYSIS

5.1. Asbestos-Containing Material

As part of the inspection, bulk samples of suspect materials were collected by accredited asbestos inspectors in a random and representative manner as determined by each inspector. Samples were collected by taking a core sample that included all layers within the suspect material. Samples from soft friable materials were obtained by removing a small portion using wetting techniques. All samples were placed in sealed, labeled containers, and the sample descriptions and locations were recorded. Digital photographs were also taken to provide a visual reference for each material. At the time of collection, samples were labeled with an appropriate and unique number. This number (along with other information such as sample location, color, texture, and condition) was recorded on the inspection form.

The inspector delivered the samples along with a completed chain-of-custody (COC) document to the laboratory. The laboratory then arranged the samples in numerical order. If a discrepancy between the samples exists, this is noted and initialed on the COC. The laboratory signed a copy of the COC to acknowledge receipt. The inspector retained the signed copy for evidentiary purposes. Further, the laboratory assigned a laboratory number to each sample received. The laboratory labeled both the analytical report and the sample container with this laboratory number for cross-reference purposes.

The bulk samples were submitted for progressive analysis (positive stop) to Reservoirs Environmental Services Inc., a National Volunteer Laboratory Accreditation Program (NVLAP) accredited laboratory. Under progressive analysis, once a positive result is obtained within a sample set, all subsequent samples within that set are not analyzed (as a cost savings measure).

Analysis of the bulk samples was performed using PLM procedures developed by McCrone Research Institute, and in compliance with the guidelines established by the Environmental Protection Agency (EPA-600/R-93/116, June, 1993) to determine asbestos type and content. The PLM samples are reported as percent asbestos by Calibrated Visual Area Estimation. Percent asbestos for separate layers and total for the sample are delineated in the laboratory report. Unused portions of samples are archived for six months unless the client requests special handling.

As of November 20, 1990, the EPA NESHAP requires that samples with less than 10 percent asbestos be analyzed by the point-count procedure, or must be assumed positive for asbestos. CDPHE regulations require that samples containing 1 percent or less asbestos be analyzed under the point-counting method (to avoid false negatives, or inaccurately classifying asbestos-containing material as non-asbestos-containing material). The analytical and laboratory reports are located in Appendix D of this report.

The following summary provides specific information for suspect homogeneous materials identified, bulk sampling, and analytical results.

TABLE 1 - SUMMARY OF ASBESTOS ANALYSIS

HOMOGENEOUS AREA	MATERIAL DESCRIPTION	ASBESTOS CONTENT	LOCATION	QUANTITY
H-17-AI-AS01	Composite Asphalt	ND	Bridge Surface	2,178 SF
H-17-AI-AS02	Composite Asphalt with Tar Layer	ND	Below Highway Bridge	660 SF
H-17-AI-CN01	Concrete Substrate	ND	Bridge Structure on Sides and Underneath	3,690 SF
H-17-AI-CS01	Amber Colored Hard Concrete Sealant	ND	Guard Rail Posts	40 Plugged Holes
H-17-AI-PA01	White Road Lane Paint	ND	Shoulder and Middle Lanes on Asphalt Roadway	99 LF
H-17-AI-PA02	Yellow Road Lane Paint	ND	Median Lanes	66 LF
H-17-AI-RT01	Black, Sticky Road Tar	ND	Horizontal Lines on Asphalt Roadway	294 LF
H-17-AI-RT02	Black Road Tar	ND	Spilling over Concrete on Bridge Structure	80 SF
H-17-AI-VB01	Dark Gray, Fibrous Vapor Barrier	ND	Between Concrete Structure, Culvert Edges, and Center Seams under Bridge	200 LF

LF – Linear Feet; SF – Square Feet; ND – None Detected

Representative Photos are below:



AS01



AS02



CN01



CS01



PA01



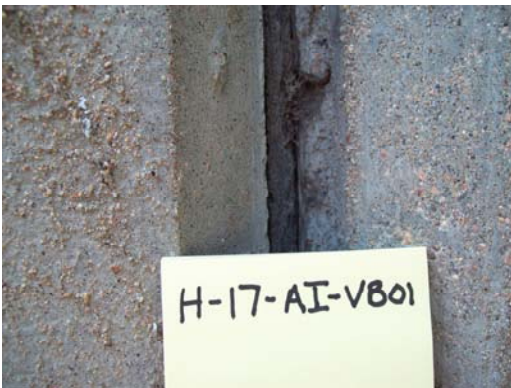
PA02



RT01



RT02



VB01

The analytical and laboratory reports are located in Appendix D of this report.

5.2. Lead-Based Paint

Paint (chip) samples were collected by physically removing a small portion approximately 2 inches square using a cutting or coring tool. Each sample was placed into a sealed and labeled container, and sample locations and descriptions were recorded.

The inspector delivered the samples along with a completed COC document to the laboratory. The laboratory then arranged the samples in numerical order. If a discrepancy between the samples exists, this is noted and initialed on the log sheet. The laboratory signed a copy of the sample log to acknowledge receipt. The inspector retained the signed copy for evidentiary purposes. Further, the laboratory assigned a laboratory number to each sample received. The laboratory labeled both the analytical report and the sample container with this laboratory number for cross-reference purposes.

The chip samples were submitted to Reservoirs Environmental Services Inc. for analysis by Atomic Absorption Analysis (AAS).

The following summary provides the results of lead analysis by AAS.

TABLE 2 - SUMMARY OF LEAD-BASED PAINT ANALYSIS

SAMPLE ID	LOCATION	SUBSTRATE	COLOR	CONDITION	RESULT (% BY WEIGHT)
H-17-AI-LBP01	Shoulder and Center Lane	Asphalt	White	Intact	BRL
H-17-AI-LBP02	Median Lane	Asphalt	Yellow	Intact	BRL

BRL- Below Reporting Limit

Representative Photos are below:



LBP01



LBP02

6. FINDINGS

6.1. Asbestos-Containing Material

EPA, OSHA and CDPHE define asbestos-containing material (ACM) as any material containing greater than 1% asbestos. EPA and CDPHE define asbestos-containing building material (ACBM) as any building material containing greater than 1% asbestos. The following summary provides listings of ACBM

- Asbestos-containing materials were not identified as part of this inspection.

6.2. Lead-Based Paint

Lead-Based Paint (>0.5% by weight) was not identified during this inspection.

7. RECOMMENDATIONS

7.1. Asbestos-Containing Material

All regulated asbestos-containing materials (RACMs) are required by regulation to be properly removed and disposed of prior to renovation or demolition activities. The proper removal and handling of these materials is typically addressed through the preparation of a written “abatement scope of work/specification” document (bid package).

Under normal demolition activities, nonfriable Category I non-RACMs (nonfriable materials such as floor tile, roofing, and gasket material) and similar nonfriable Category II non-RACMs are allowed to remain, and can be disposed of as normal demolition debris, provided these materials remain nonfriable during demolition activities. Some landfills allow the material to be disposed of with construction debris; however, the waste hauler and landfill must be notified that they are receiving a Category I nonfriable asbestos material. If the material is removed as an asbestos removal project it should be disposed of as nonfriable asbestos waste.

Materials containing 1% or less asbestos (as verified by point count) are not subject to EPA and CDPHE requirements, and therefore may remain during building demolition. Non-RACMs and materials containing 1% or less asbestos may be subject to OSHA regulations if air concentrations are at or above the personal exposure limit (PEL) of 0.1 f/cc or the excursion limit of 1.0 f/cc.

Asbestos-containing materials or trace-1% (OSHA) asbestos materials were not identified during this inspection; therefore, materials are not subject to the above referenced provisions.

7.2. Lead-Based Paint and Lead-Containing Paint

Renovation and demolition activities involving Lead-Based Paint are covered under the OSHA Construction Industry Standard for Lead (Title 29 of the Federal Code of Regulations, Part 1926.62). This standard addresses such issues as worker training, medical evaluations, personnel protective equipment, exposure assessment, biological monitoring, air monitoring, hygiene facilities and practices, and health and safety plans. OSHA regulations do not define a minimum concentration of lead as a threshold for action. Thus, even concentrations below EPA/HUD/CDPHE levels are covered under OSHA.

Additionally, lead-containing materials require a hazardous waste determination pursuant to 40 CFR 262.11, and 40 CFR 261.24. It is a standard industry approach that demolition waste characterization should be performed on structures containing lead-based paint. This procedure is the Toxicity Characteristic Leaching Process (TCLP), where sample composite representative of all building components to be demolished (i.e. all lead-based paint coated and non-lead-based paint coated materials from the structure) is submitted to the laboratory for analysis. The Toxicity Characteristic (TC) limit for lead is 5ppm in the leachate. Materials that exceed this limit must be disposed of as hazardous waste. Materials that do not exceed this limit may be disposed of as solid waste.

The types and locations of lead-containing paint (LCP), and regulatory requirements should be disclosed to the demolition contractor and/or salvage contractor to avoid accidental disturbance, and for contractor compliance with applicable regulations (to ensure proper worker protection).

8. LIMITATIONS

No survey can completely eliminate the uncertainty regarding the presence of asbestos-containing materials, lead-based paint and other hazardous materials. The level of diligence and investigative procedures utilized are intended to reduce, but not eliminate potential uncertainty regarding the presence of these materials. The procedures used for this survey attempted to establish a balance between the competing goals of inspection cost, time and aesthetic damage. The determinations of this report should not be construed as a guarantee that all such materials present in the subject property have been identified in the report.

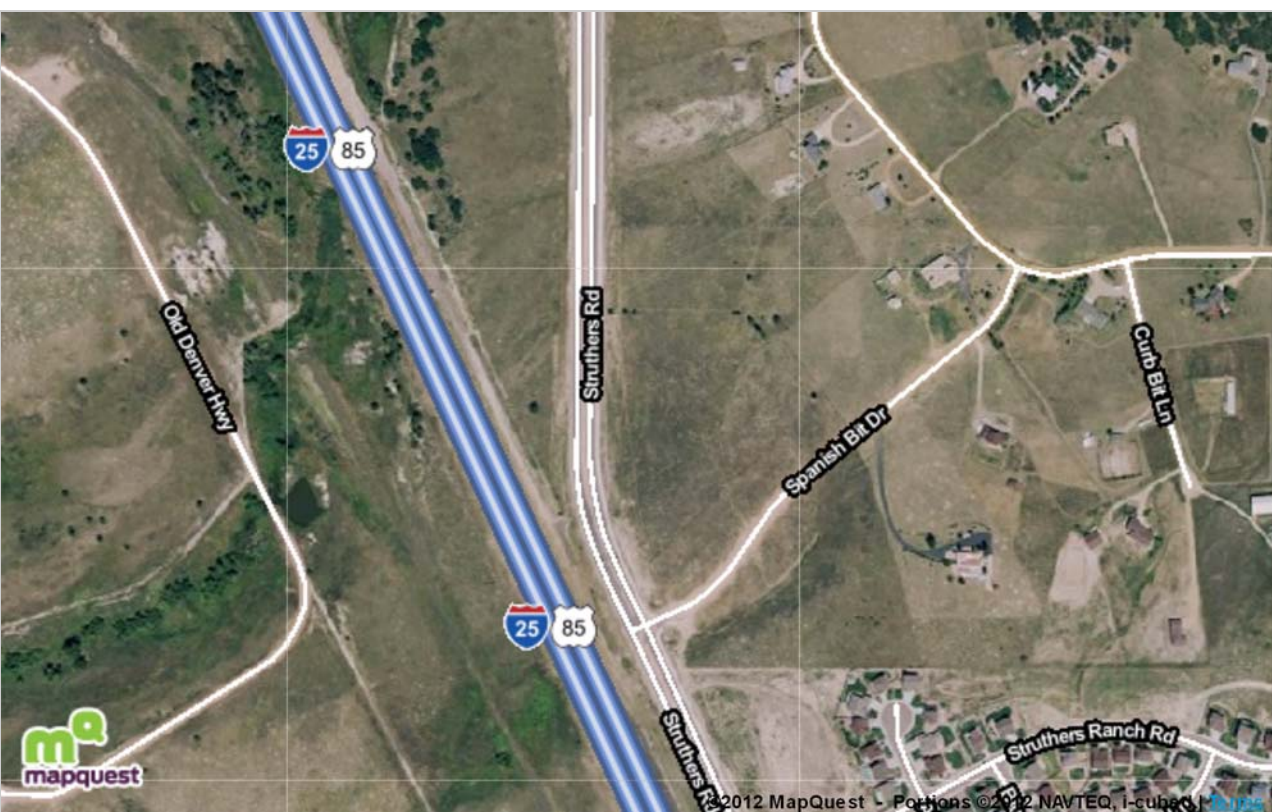
The inspection was performed in a manner consistent with the level of care and expertise exercised by members of the asbestos inspection and assessment profession. Those entities and persons involved with the inspection and generation of this report do not imply or guarantee that all potential asbestos-containing materials on or in the structure have been identified or sampled. Historically, asbestos has been added as a component to over 3,000 materials and products produced in the United States. The inspection was intended to identify those accessible materials that were reasonably suspect and that were most likely to contain asbestos in quantities subject to regulation, based on existing industry and regulatory standards.

Destructive investigation activities were conducted to identify materials in previously inaccessible areas (behind walls, above ceilings, etc), using limited demolition methods. These activities created small openings for investigation, but are limited in that full observation is not possible due to the presence of walls, flooring, ceilings, etc. Informational (hazard communication) training for demolition supervisory staff and workers, and additional inspection by an accredited asbestos inspector during demolition may assist in identifying any other hidden or concealed materials that may exist in the building.

Drawings and diagrams contained in this report are for informational purposes only, and proportion and scales are approximate.

APPENDIX A

SITE LOCATION DRAWING



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APPENDIX B

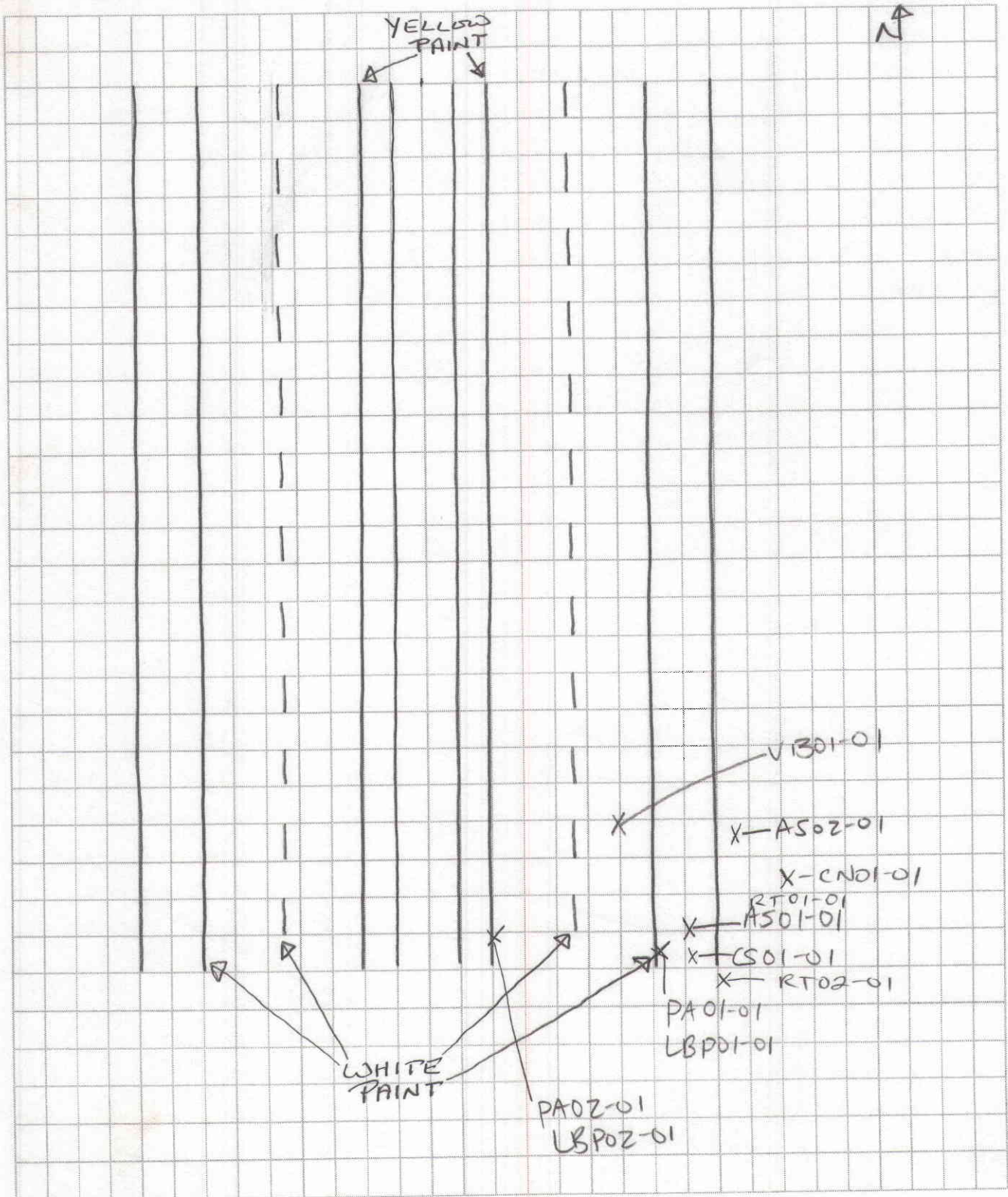
SAMPLE LOCATION DRAWINGS

(Asbestos and Paint Sample Locations)

DAILY FIELD DRAWING

Project: CDOT REGION 2 BRIDGE
ID: H-17-AI

Date: 5/31/12 Day: FRI



APPENDIX C

FIELD INSPECTION WORKSHEETS

WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-AS01-X

Amount of material: 2178 SF

Description of Material: Composite asphalt

Type of Suspect Material: _____ Surfacing _____ TSI X _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>South edge of bridge at shoulder</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable _____	Deterioration	_____	_____	<u>X</u>
Non-Friable <u>X</u>	Water Damage	_____	_____	<u>X</u>
	Physical Damage	<u>X</u>	_____	<u>X</u>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact	<u>X</u>	_____	_____
Vibration	<u>X</u>	_____	_____
Air erosion	<u>X</u>	_____	_____

Comments: _____

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- X _____ ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: _____

Inspector Signature: _____



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-A502-X

Amount of material: 660 SF

Description of Material: Asphalt composite layer with Tar

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>Below NB lane bridge, 10' from S edge</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable	Deterioration	_____	<input checked="" type="checkbox"/>	_____
Non-Friable <input checked="" type="checkbox"/>	Water Damage	_____	<input checked="" type="checkbox"/>	_____
	Physical Damage	_____	<input checked="" type="checkbox"/>	_____

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%


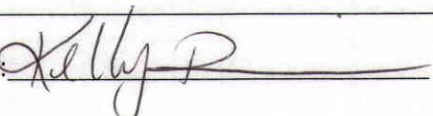
Potential for Disturbance	High	Moderate	Low
Contact	<input checked="" type="checkbox"/>	_____	_____
Vibration	<input checked="" type="checkbox"/>	_____	_____
Air erosion	<input checked="" type="checkbox"/>	_____	_____

Comments: asphalt below highway bridge

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- _____ ACBM with potential for damage
- ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name:  Inspector Signature: 



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-CN01

Amount of material: 3,690 SF

Description of Material: concrete substrate

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>SE section of bridge, east, 5' up</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition	Deterioration	Sig. Damaged	Damaged	Good
Friable _____	_____	_____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage _____	_____	_____	<input checked="" type="checkbox"/>
	Physical Damage _____	_____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact _____	<input checked="" type="checkbox"/>	_____	_____
Vibration _____	<input checked="" type="checkbox"/>	_____	_____
Air erosion _____	<input checked="" type="checkbox"/>	_____	_____

Comments: Bridge substrate on sides & underneath

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: Michelle [Signature] Inspector Signature: Kelly R [Signature]



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-CS01-X

Amount of material: 40 plugged holes

Description of Material: Amber-colored, hard concrete sealant

Type of Suspect Material: _____ Surfacing _____ TSI Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NB lane, Southern part of bridge, at shoulder</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable _____	Deterioration	_____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage	_____	_____	<input checked="" type="checkbox"/>
	Physical Damage	_____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%


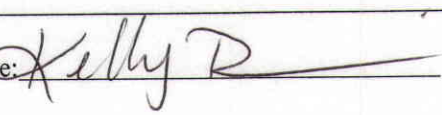
Potential for Disturbance	High	Moderate	Low
Contact	<input checked="" type="checkbox"/>	_____	_____
Vibration	<input checked="" type="checkbox"/>	_____	_____
Air erosion	<input checked="" type="checkbox"/>	_____	_____

Comments: Found where guard rail posts used to be

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name:  Inspector Signature: 

WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-PA01-X

Amount of material: 99 LF

Description of Material: white road lane paint

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NB lanes, S of bridge, at shoulder</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition	Sig. Damaged	Damaged	Good
Friable _____	Deterioration _____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage _____	_____	<input checked="" type="checkbox"/>
	Physical Damage _____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact _____	<input checked="" type="checkbox"/>	_____	_____
Vibration _____	<input checked="" type="checkbox"/>	_____	_____
Air erosion _____	<input checked="" type="checkbox"/>	_____	_____

Comments: Found at shoulder & middle lanes

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: Michael [Signature] Inspector Signature: Kelly R [Signature]



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-PA02-X

Amount of material: 66 LF

Description of Material: yellow road lane paint

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NB lanes, W side of road, at median</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition	Deterioration	Sig. Damaged	Damaged	Good
Friable	_____	_____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage	_____	_____	<input checked="" type="checkbox"/>
	Physical Damage	_____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact	<input checked="" type="checkbox"/>	_____	_____
Vibration	<input checked="" type="checkbox"/>	_____	_____
Air erosion	<input checked="" type="checkbox"/>	_____	_____

Comments: Along median

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: Mic [Signature] Inspector Signature: Kelly [Signature]



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-RTD1

Amount of material: 294 LF

Description of Material: Black, sticky road tar

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NBlanes, Southern part of bridge, on shoulder</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable	Deterioration	_____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage	_____	_____	<input checked="" type="checkbox"/>
	Physical Damage	_____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact	<input checked="" type="checkbox"/>	_____	_____
Vibration	<input checked="" type="checkbox"/>	_____	_____
Air erosion	<input checked="" type="checkbox"/>	_____	_____

Comments: Found on road base on highway

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: [Signature] Inspector Signature: Kelly D



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges
 Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI Homogeneous Area # H-17-AI-PT02
 Amount of material: 80 SF

Description of Material: Black road tar

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>SE side of bridge, along wall</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable _____	Deterioration	_____	_____	<input checked="" type="checkbox"/>
Non-Friable <input checked="" type="checkbox"/>	Water Damage	_____	_____	<input checked="" type="checkbox"/>
	Physical Damage	_____	_____	<input checked="" type="checkbox"/>

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact	<input checked="" type="checkbox"/>	_____	_____
Vibration	<input checked="" type="checkbox"/>	_____	_____
Air erosion	<input checked="" type="checkbox"/>	_____	_____

Comments: Found spilling over concrete on bridge structure

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- ACBM with potential for damage
- _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: Miscellaneous Inspector Signature: Kelly D.



WALSH Asbestos Inspection Form

Name: CDOT Region 2 Bridges

Project: WA-000944-0186 Date: 06/29/12

Building: Bridge H-17-AI

Homogeneous Area # H-17-AI-VB01

Amount of material: 200 LF

Description of Material: Dark gray, fibrous vapor barrier

Type of Suspect Material: _____ Surfacing _____ TSI X _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>under bridge, SE side, between concrete structures</u>	<u>ND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Condition		Sig. Damaged	Damaged	Good
Friable _____	Deterioration	<u>X</u>	_____	_____
Non-Friable <u>X</u>	Water Damage	<u>X</u>	_____	_____
	Physical Damage	<u>X</u>	_____	_____

Note: Sig. Damaged = >10% scattered or >25% local damage. Damaged = <10% / <25%

Potential for Disturbance	High	Moderate	Low
Contact	<u>X</u>	_____	_____
Vibration	<u>X</u>	_____	_____
Air erosion	<u>X</u>	_____	_____

Comments: Found between concrete structures on bridge, curbs & center seams under bridge

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- _____ Damaged or significantly damaged friable miscellaneous ACBM
- _____ ACBM with potential for damage
- X _____ ACBM with potential for significant damage
- _____ Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: [Signature] Inspector Signature: [Signature]

WALSH Lead Inspection Form

Name: CDOT Region 2 bridges
 Project: 000944-0186 Date: 06/29/12
 Sample Method: Faint Chips

Building: H.17.A.I.

Description:

Component	Location	Color	Condition	Sample #	Lab Result
F W C S O	① NB lanes, sedge, at shoulder	white	① F	P 113P01-01	BRL
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	
F W C S O			I F	P	

Components: F=Floors, W=Walls, C=Ceiling, S=Exterior Siding, O=Other
 Condition: I=Intact, F=Fair (Damage or deterioration <2SF or 10% per room), P=Poor (Damage or deterioration >2SF or 10% per room)

Comments:
White road lane paint on shoulder & center stripes
-asphalt substrate 99LF


 Inspector Signature


 Assistant Signature

WALSH Lead Inspection Form

Name: DOT Region 2 bridges
 Project: 000944-0186 Date: 06/22/12
 Sample Method: Paint Chip

Building: H-17-AI

Description:

Component	Location	Color	Condition	Sample #	Lab Result
F W C S	Ⓞ NB lanes, W side of road, at median	yellow	Ⓢ I F P	43202-01	BRL
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		
F W C S O			I F P		

Components: F=Floors, W=Walls, C=Ceiling, S=Exterior Siding, O=Other
 Condition: I=Intact, F=Fair (Damage or deterioration <2SF or 10% per room), P=Poor (Damage or deterioration >2SF or 10% per room)

Comments:

Median stripe - asphalt substrate (66LF)


 Inspector Signature


 Assistant Signature

APPENDIX D

LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS



July 5, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239370-1
Project # / PO #: WA-000944-0186-10
Project Description: Region 2 Bridges - H-17-
AI - Lead

Walsh Environmental - (Colo. Springs)
130 E. Kiowa Suite 202
Colorado Springs CO 80903

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the American Industrial Hygiene Association, Lab ID 101533 - Accreditation Certificate #480. The laboratory is currently proficient in both PAT & ELPAT programs respectively.

Reservoirs has analyzed the following sample(s) using Atomic Absorption Spectroscopy (AAS) / Atomic Emission Spectroscopy - Inductively Coupled Plasma (AES-ICP) per your request. Reported sample results were not blank corrected. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

RES 239370-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

A handwritten signature in blue ink that reads "Jeanne Spencer".

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

**5801 Logan St., Suite 100
Denver CO 80216**

TABLE ANALYSIS: LEAD IN PAINT

RES Job Number: **RES 239370-1**
 Client: **Walsh Environmental - (Colo. Springs)**
 Client Project Number / P.O.: **WA-000944-0186-10**
 Client Project Description: **Region 2 Bridges - H-17-AI - Lead**
 Date Samples Received: **July 3, 2012**
 Analysis Type: **USEPA SW846 3050B / AA (7420)**
 Turnaround: **24 Hour**
 Date Samples Analyzed: **July 3, 2012**

Client ID Number	Lab ID Number	Reporting Limit (%)	LEAD CONCENTRATION (%)
H-17-AI-LBP01-01	EM 890254	0.0043	BRL
H-17-AI-LBP02-01	EM 890255	0.0017	BRL

*** Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**

Reservoirs Environmental, Inc.

RES 239370

Due Date: 7.4.12

Due Time: 8:45

5801 Logan Street, Suite 100 Denver, CO 80216
 (303) 964-1986 Fax (303) 477-4275 Toll Free (866) RESI-ENV

Page 1 of 2

SAMPLES SUBMITTED BY:

Company: Walsh Environmental Scientists & Engineers, LLC.
 Address: 130 E. Kiowa St. Suite 202
 Colorado Springs, CO 80903

INVOICE TO: (IF DIFFERENT)

Company: Kelly Dennison
 Address: 1-719-227-0999
 Phone: 1-719-227-0491
 Fax: 1-303-330-1147
 Cell/pager: 1-303-330-1147

CONTACT INFORMATION:

Contact: Kelly Dennison
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cell/pager: 1-303-330-1147

Project Number and/or P.O. #: WA-000944-01810-10

Project Description/Location: Region 2 Bridges - H-17-AE-Lead

Final Data Deliverable Email Address: csresults@walshenv.com
 kdennison@walshenv.com

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm; Saturday: 8am - 5pm

PCMI/PLM/TEM RUSH 24 hr. 3-5 day (Rush PCMI/PLM = 2hr, TEM - 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) RUSH X 24 hr. 3-5 Day

RCRA 8/Metals Scan RUSH 5 day 10 day

TCCLP/ Welding Fume Scan RUSH 24 hr. 3-5 Day

Dust 24 hr. 3 day 5 Day

Organics 24 hr. 3 day 5 Day

Prior notification is required for RUSH turnarounds.

Analysis turnarounds are subject to laboratory sample volume and are not guaranteed. You will be notified if delays are expected. Additional fees apply for afterhours and holidays for all analysis types.

Special Instructions: Lead in Paint

Client sample ID number (Sample ID's must be unique)

1 H-17-AE-LB P01-01

2 H-17-AE-LB P02-01

3

4

5

6

7

8

9

10

11

12

13

REQUESTED ANALYSIS	VALID MATRIX CODES	LAB NOTES:
PLM - Short report, Long report, Point Count	Air = A Bulk = B	
TEM - AHERA, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	Dust = D Paint = P	
PCM - 7400A, 7400B, OSHA	Soil = S Wipe = W	
DUST - Total, Respirable	Drinking Water = DW	
METALS - Analyte(s) Paintchip-Lead	Waste Water = WW	
RCRA 8, TCLP, Welding Fume, Metals Scan	Other = O	
ORGANICS - BTEX, MTBE, 8260, GRO, DRO	**ASTM E1792 approved wipe media only**	
OTHER -		
	Sample Volume (L) / Area	EM Number (Laboratory Use Only)
	Matrix Code	
	# Containers	
	Date Collected mm/dd/yy	
	Time Collected hr/mm ap	
		890254
		SE

Number of samples received: 2 two (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days.

Relinquished By: Kelly Dennison Date/Time: 07/02/12 11:00

Laboratory Use Only Carrier: FedEx

Received By: Kelly Dennison Date/Time: 7.3.12 8:45

Results: Contact Page Phone Email Fax Date Time Initials Contact Page Phone Email Fax Date Time Initials

Sample Condition: On Ice Sealed Intact Y/N Y/N Y/N

Temp. (F°) Date/Time Initials

July 5, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 239366-1
Project # / P.O. # WA-000944-0186-10
Project Description: Region 2 Bridges - H-17-AI

Walsh Environmental - (Colo. Springs)
130 E. Kiowa Suite 202
Colorado Springs CO 80903

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 239366-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer
President



Analyst(s): _____

Paul D. LoScalzo Wenlong Liu
Michael Scales Adam Humphreys
Anita Grigg Robert R. Workman Jr.
Bethany Nichols Anya Angst

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0
TDH Licensed Laboratory # 30-0136

TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 239366-1**
 Client: **Walsh Environmental - (Colo. Springs)**
 Client Project Number / P.O.: **WA-000944-0186-10**
 Client Project Description: **Region 2 Bridges - H-17-AI**
 Date Samples Received: **July 3, 2012**
 Analysis Type: **PLM, Short Report**
 Turnaround: **24 Hour**
 Date Analyzed: **July 5, 2012**

ND=None Detected
TR=Trace, <1% Visual Estimate
Trem-Act=Tremolite-Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
H-17-AI-AS01-01	EM 145706	A	Gray granular cementitious material w/ brown debris and black tar	100		ND	0	100
H-17-AI-AS02-01	EM 145707	A	Black resinous material	30		ND	0	100
		B	Black granular tar	70		ND	0	100
H-17-AI-CN01-01	EM 145708	A	Gray granular cementitious material	100		ND	0	100
H-17-AI-CS01-01	EM 145709	A	Tan/clear resinous material	100		ND	0	100
H-17-AI-PA01-01	EM 145710	A	Black granular tar	20		ND	0	100
		B	White resinous material w/ clear glass spheres	80		ND	0	100
H-17-AI-PA02-01	EM 145711	A	Black granular tar	10		ND	0	100
		B	Orange resinous material w/ multi-colored glass spheres	90		ND	0	100
H-17-AI-RT01-01	EM 145712	A	Black resinous material	100		ND	0	100
H-17-AI-RT02-01	EM 145713	A	Black tar	100		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

Data QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0
TDH Licensed Laboratory # 30-0136

TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 239366-1**
 Client: **Walsh Environmental - (Colo. Springs)**
 Client Project Number / P.O.: **WA-000944-0186-10**
 Client Project Description: **Region 2 Bridges - H-17-AI**
 Date Samples Received: **July 3, 2012**
 Analysis Type: **PLM, Short Report**
 Turnaround: **24 Hour**
 Date Analyzed: **July 5, 2012**

ND=None Detected
TR=Trace, <1% Visual Estimate
Trem-Act=Tremolite-Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
H-17-AI-VB01-01	EM 145714	A	Brown/black fibrous material	100		ND	50	50

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

Reservoirs Environmental, Inc.

RES 239366

5801 Logan Street, Suite 100 Denver, CO 80216
 (303) 964-1986 Fax (303) 477-4275 Toll Free (866) RESI-ENV

Due Date: 7-5-12
 Due Time: 8:15

Page 1 of 1

SAMPLES SUBMITTED BY:

Company: Walsh Environmental Scientists & Engineers, LLC.
 Address: 130 E. Kiowa St. Suite 202
 Colorado Springs, CO 80903

INVOICE TO: (IF DIFFERENT)

Company: Kelly Dennison
 Address: 5801 Logan Street, Suite 100 Denver, CO 80216
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cell/pager: 1-303-330-1147
 Final Date Deliverable Email Address: csresults@walshenv.com
 kdennison@walshenv.com

CONTACT INFORMATION:

Contact: Kelly Dennison
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cell/pager: 1-303-330-1147
 Final Date Deliverable Email Address: csresults@walshenv.com
 kdennison@walshenv.com

Project Number and/or P.O. #: WA-000944-0180-10
 Project Description/Location: Region 2 Bridges H-17-A-I

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm, Saturday: 8am - 5pm

PCMI/PLM/TEM RUSH 24 hr. 3-5 day (Rush PCMI/PLM = 2hr, TEM - 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) RUSH 24 hr. 3-5 Day

RCRA 8/Metals Scan RUSH 5 day 10 day

TCLP/Welding Fume Scan RUSH 24 hr. 3-5 Day

Dust RUSH 24 hr. 3 day 5 Day

Organics RUSH 24 hr. 3 day 5 Day

Analysis turnaround is subject to laboratory sample volume and are not guaranteed. You will be notified if delays are expected. Additional fees apply for afterhours and holidays for all analysis types.

Special Instructions:

Client sample ID number (Sample ID's must be unique)

- 1 H-17-A-I-AS01-01
- 2 AS02-01
- 3 CN01-01
- 4 CS01-01
- 5 PA01-01
- 6 PA02-01
- 7 RT01-01
- 8 RT02-01
- 9 VB01-01

Prior notification is required for RUSH turnarounds.

REQUESTED ANALYSIS

PLM - Short report Long report, Point Count
 TEM - AHERA, Level II, 7402, ISO, +/-, Quant.
 Semi-quant, Micro-vac, ISO-Indirect Preps
 PCM - 7400A, 7400B, OSHA
 DUST - Total, Respirable
 METALS - Analyte(s)
 RCRA 8, TCLP, Welding Fume, Metals Scan
 ORGANICS - BTEX, MTBE, GRO, DRO
 OTHER -

VALID MATRIX CODES

Air = A
 Dust = D
 Soil = S
 Drinking Water = DW
 Waste Water = WW
 Other = O

ASTM E1792 approved wipe media only

LAB NOTES

Bulk = B
 Paint = P
 Wipe = W

EM Number (Laboratory Use Only)
 145706
 8
 10
 11
 12
 13
 14

Number of samples received: 9 Nine

(Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days.

Relinquished By: Kelly D
 Laboratory Use Only

Date/Time: 07/02/12 1600

Carrier: FedEx

Sample Condition: On Ice Sealed Intact
 Temp. (F°) Y/N Y/N Y/N

Results:	Contact	Page	Phone	Email	Fax	Date	Time	Initials
	Contact	Page	Phone	Email	Fax	Date	Time	Initials
	Contact	Page	Phone	Email	Fax	Date	Time	Initials

APPENDIX E

REFERENCES

ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-Containing Materials
ACBM	Asbestos-Containing Building Materials
AHERA	EPA Asbestos Hazard Emergency Response Act
CDPHE	Colorado Department of Public Health and Environment
D/R	Demolition and/or Renovation
HVAC	Heating Ventilation and Air Conditioning
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NVLAP	National Volunteer Laboratory Accreditation Program
O&M	Asbestos Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos-containing Material
PEL	Personal Exposure Limit
PLM	Polarized Light Microscopy
RACM	Regulated Asbestos- Containing Material
TSI	Thermal System Insulation
EPA	United States Environmental Protection Agency
VAT	Asbestos-Containing Vinyl Tile
WALSH	Walsh Environmental Scientists and Engineers, LLC

ASBESTOS REFERENCES

- United States Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61.140-157.
- United States Environmental Protection Agency, Asbestos-Containing Materials in Schools; Final Rule and Notice (Asbestos Hazard Emergency Response Act - AHERA) 40 CFR 763.80-99, 1990.
- United States Environmental Protection Agency, Simplified Sampling Scheme for Surfacing Materials (“Pink Book”) EPA publication #560/5-85-030a, Washington DC, 1985.
- Occupational Safety and Health Administration, Asbestos Regulations for the Construction Industry 29 CFR 1926.1101, Washington DC, 1994.
- Occupational Safety and Health Administration, Asbestos Regulations for the General Industry 29 CFR 1910.1001, Washington DC, 1994.
- Colorado Department of Public Health and Environment, Regulation 8 - Emission Standards for Asbestos, 2003.

GLOSSARY

ASBESTOS - A generic name given to a number of naturally occurring silicates that have a unique crystalline structure. They are incombustible in air and separable into fibers. Asbestos includes the asbestiform varieties of Chrysotile, Crocidolite, Amosite, Anthophyllite, Actinolite, and Tremolite.

ACBM – Asbestos-Containing Building Material. A term that encompasses surfacing, thermal system, and miscellaneous asbestos-containing material in or on interior/exterior parts of a building. This definition also included exterior hallways connecting buildings, porticos, and mechanical system insulation.

ACBM - Asbestos-Containing Building Material. Any material with one percent (1%) or more asbestos content.

BULK SAMPLE - A piece of suspected asbestos-containing building material.

FRIABLE - A material which can be crumbled, pulverized, or reduced to powder when dry, by moderate hand pressure.

FUNCTIONAL AREA - Distinct units within a building such as a room, a group of rooms, or a homogeneous area - this includes crawl spaces and areas above a drop ceiling.

HOMOGENEOUS AREA - An area which appears similar throughout in terms of: color, texture, and date of material application.

INACCESSIBLE AREA - Inaccessible areas are those areas which cannot be inspected due to physical barriers. Buildings may contain areas that are intrinsically inaccessible. These include gaps and spaces in walls, areas above fixed ceilings and below floors, and enclosed boiler breechings and ducts. Some buildings contain other inaccessible areas, such as very small pipe tunnels, sealed crawl spaces, unsafe attics, encased boilers, etc.

NONFRIABLE - A material which cannot be crumbled or pulverized by hand pressure.

PACM - Presumed Asbestos-Containing Material

PLM - Polarized Light Microscopy. An accepted method for analyzing bulk ACBM samples.

RACM – Regulated Asbestos-Containing Material. Any material with one percent (1%) or more asbestos content and is required to be removed prior to demolition activities.

EPA - United States Environmental Protection Agency. The EPA is the federal agency that governs environmental problems. In the case of ACBM in buildings, the EPA deals with regulations and their guidelines for application, renovation, removal, and disposal of ACBM in building structures.

APPENDIX F

CONSULTANT CREDENTIALS

STATE OF COLORADO

ASBESTOS CERTIFICATION*

Colorado Department of Public Health
and Environment
Air Pollution Control Division

This certifies that

Michael Perry

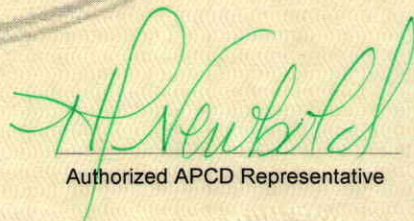
Certification No: 15632

has met the requirements of 25-7-507, C.R.S. and Air Quality Control
Commission Regulation No. 8, Part B, and is hereby certified by the
state of Colorado in the following discipline:

Inspector/Management Planner*

Issued: 9/9/2011

Expires on: 9/9/2012


Authorized APCD Representative

** This certificate is valid only with the possession of a current Division-approved training course
certification in the discipline specified above.*

SEAL



COLORADO HAZARD CONTROL LLC

2727 West 92nd Avenue, Suite 10
Federal Heights, CO 80233
303.410.4941

36 North Research Drive, Suite B
Pueblo West, CO 81007
719.547.2785

Certifies that

Michael Perry

*Has Successfully Completed the EPA- Approved Annual Asbestos Refresher Training Course
Under Section 206 of the Toxic Substance Control Act (TSCA), Title II.*

BUILDING INSPECTOR

Course Date: April 17, 2012
Certificate No.: 112179
No. of Hours: 4
Expiration Date: April 17, 2013




Michael Benedetto – Guest Instructor


Daniel R. Beaver - Instructor



COLORADO HAZARD CONTROL LLC

2727 West 92nd Avenue, Suite 10
Federal Heights, CO 80233
303.410.4941

36 North Research Drive, Suite B
Pueblo West, CO 81007
719.547.2785

Certifies that

Kelly E. Dennison

18158

*Has Successfully Completed the EPA- Approved Annual Asbestos Refresher Training Course
Under Section 206 of the Toxic Substance Control Act (TSCA), Title II.*

BUILDING INSPECTOR

Course Date: April 17, 2012
Certificate No.: 112178
No. of Hours: 4
Expiration Date: April 17, 2013




Michael Benedetto – Guest Instructor


Daniel R. Beaver - Instructor

STATE OF COLORADO

ASBESTOS CERTIFICATION*

Colorado Department of Public Health
and Environment
Air Pollution Control Division

This certifies that

Kelly E. Dennison

Certification No: 18158

has met the requirements of 25-7-507, C.R.S. and Air Quality Control
Commission Regulation No. 8, Part B, and is hereby certified by the
state of Colorado in the following discipline:

Building Inspector*

Issued: 4/20/2012

Expires on: 4/20/2013


Authorized APCD Representative

** This certificate is valid only with the possession of a current Division-approved training course
certification in the discipline specified above.*

SEAL