



**PRE-DEMOLITION/RENOVATION
ASBESTOS AND LEAD-BASED PAINT
INSPECTION REPORT FOR
COLORADO DEPARTMENT OF
TRANSPORTATION BRIDGE STRUCTURE
J-14-C**

STRUCTURE ID: J-14-C
WALSH Project Number: WA-000944-0160-X

February 22, 2012

Prepared for:

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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 J-14-C
STATE HIGHWAY 9 AT MP 20.111**

February, 22 2012

Prepared for:
Colorado Department of Transportation

Inspection Conducted and Report Prepared by:

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Walsh Project WA-000944-0160-X

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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 J-14-C, located on State Highway 9 at Mile Post 20.111. 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 February 2, 2012.

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

- State Highway 9 Bridge ID: J-14-C at Mile Post 20.111.

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 six (6) suspected asbestos-containing homogeneous areas. One (1) functional space was identified and inspected. Six (6) 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):

- Packing and gasket material associated with expansion joints within the bridge structure. These materials were not observed during the inspection, but 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 bulk samples that were analyzed by analysis 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).

Lead-Based Paint (>0.5% by weight) was identified during the inspection. The following component was confirmed to be LBP:

Lead-Based Paint (LBP)

- Wood – White – Located on Wooden Railing on sides of bridge.

The following component types was confirmed to be lead-containing (<0.5% by weight) and should be disclosed to the demolition contractor, and are subject to waste determination procedures.

Lead-Containing Paint (LCP).

- Steel – Silver – Located on Guardrails
- Steel – Silver – Located on Support Understructure of Bridge.
- Asphalt – White – Located on Road Surface.

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, 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. Since LCP was identified, TCLP waste characterization would be a standard industry approach.

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).

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

2. STRUCTURE INFORMATION

The following summary provides specific structure, scope of inspection, areas inspected and functional space information relevant to the inspection.

Bridge Structure ID: J-14-C consists as a Thirty-one Mile Creek overpass on SH 9 at Mile Post 20.111 in Park County, Colorado. The Treated Timber Stringer Bridge was constructed in 1934 with wooden post guardrails on either side. The bridge is 48-feet long and 25-feet wide. The entire bridge is considered one functional space for inspection purposes.



View of Bridge Structure ID: J-14-C
on
State Highway 9.

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

- Asphalt with Black Tar.
- Silver Paint on guardrails.
- Silver Paint on understructure of bridge.
- White Paint on wooden railing on sides of bridge.
- White Lane Paint on surface of road
- Yellow Lane Paint on surface of road.

No other suspect asbestos-containing materials were identified during the 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, 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 concrete, 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 non-friable. 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 the building. 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 non-friable materials deemed potential Regulated Asbestos-Containing Material (RACM, non-friable 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 during renovation or demolition activities and 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 using procedures developed by McCrone Research Institute, and in compliance with the guidelines established by the Environmental Protection Agency (EPA-600/B-93/116, Dec. 1982) 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.

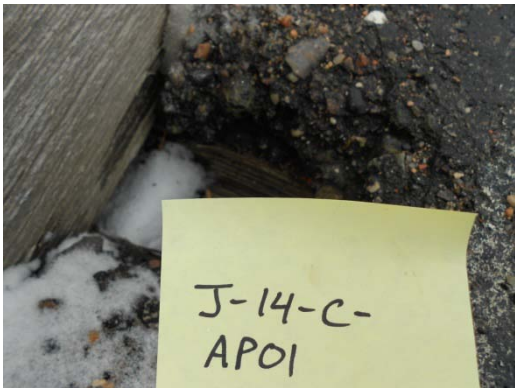
The following summary provides specific information for suspect homogeneous materials identified, bulk sampling, and analytical results.

TABLE 1 - SUMMARY OF ASBESTOS ANALYSIS

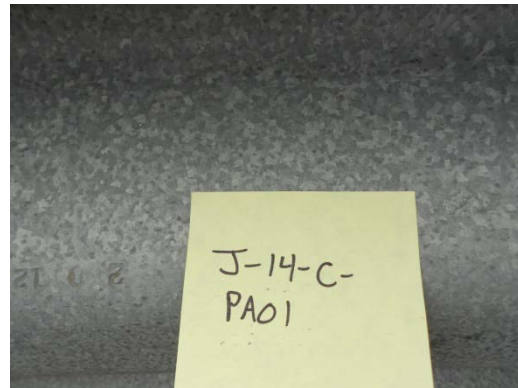
HOMOGENEOUS AREA	MATERIAL DESCRIPTION	ASBESTOS CONTENT	LOCATION	QUANTITY
J-14-C-AP01	Black Asphalt with Black Tar	ND	Two Layers on bridge roadway	~1,200 SF
J-14-C-PA01	Silver Paint	ND	Steel Guardrails	~1,950 SF
J-14-C-PA02	Silver Paint	ND	Metal Understructure Support of Bridge	~100 SF
J-14-C-PA03	White Paint	ND	Wooden Railings on Sides of Bridge	~650 SF
J-14-C-PA04	White Road Paint	ND	White Road Lane Paint	~96 LF
J-14-C-PA05	Yellow Road Paint	ND	Yellow Road Lane Paint	~20 LF

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

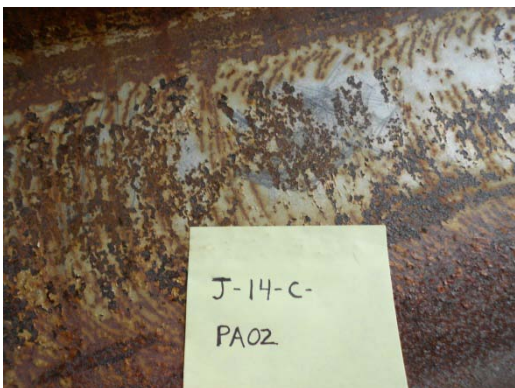
Representative Photos are below:



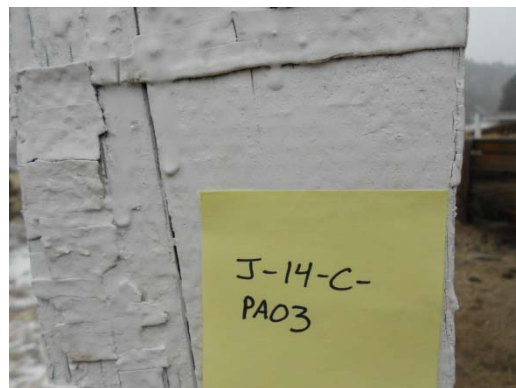
AP01



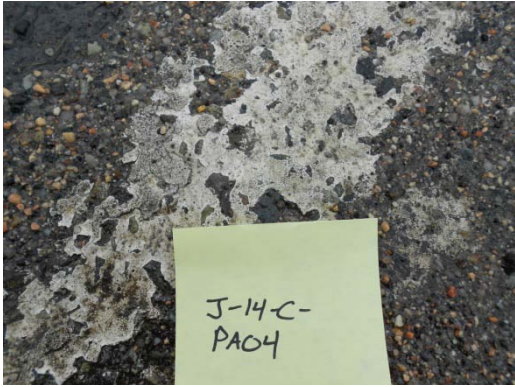
PA01



PA02



PA03



PA04



PA05

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 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.

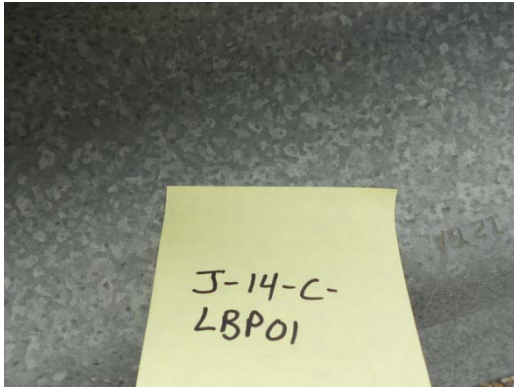
The chip samples were submitted to Reservoirs Environmental Services Inc. for analysis by Atomic Absorption Analysis (AAS).

The following summary provides the results of lead analysis by AAS

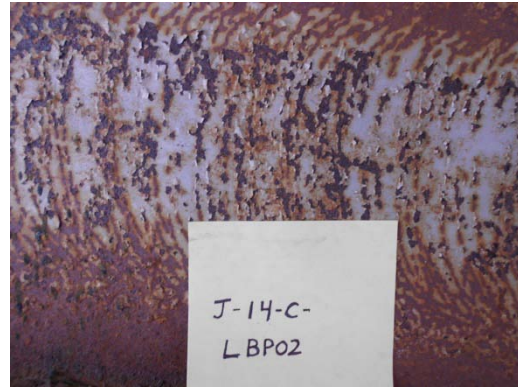
Sample ID	Location	Substrate	Color	Condition	Result % by weight
LBP01	Steel Guardrails	Metal	Silver	Good	0.040%
LBP02	Metal Understructure Support of Bridge	Metal	Silver	Significantly Damaged	0.084%
LBP03	Wooden Railings on Sides of Bridge	Wood	White	Damaged	4.518%
LBP04	White Road Lane Paint	Asphalt	White	Significantly Damaged	0.010%
LBP05	Yellow Road Lane Paint	Asphalt	Yellow	Significantly Damaged	BRL

BRL = Below Reporting Limit

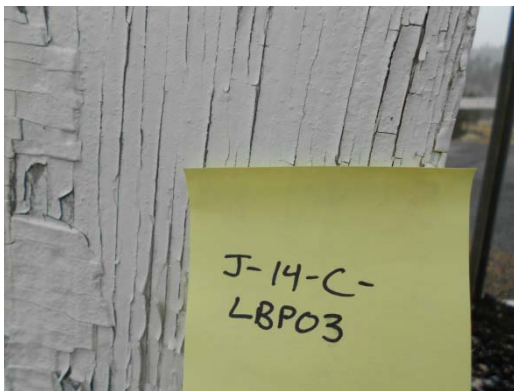
Representative Photos are below:



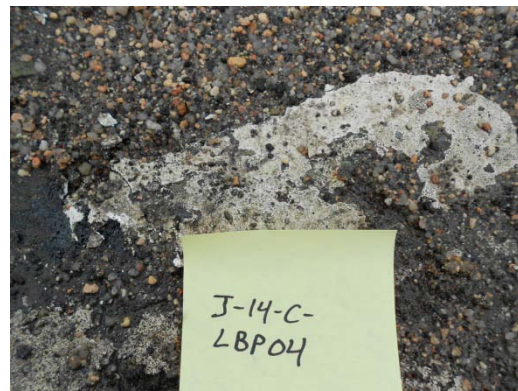
LBP01



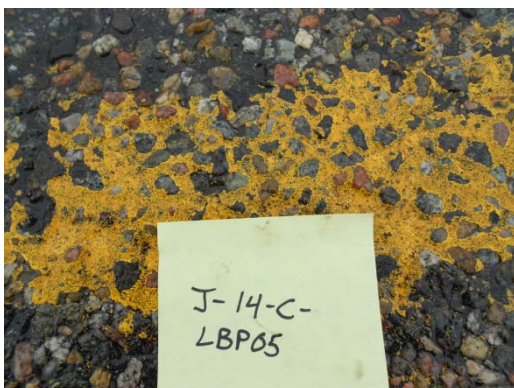
LBP02



LBP03



LBP04



LBP05

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

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 identified during the inspection. The following component was confirmed to be LBP:

Lead-Based Paint (LBP)

- Wood – White – Located on Wooden Railing, Sides of Bridge.

The following **component types** were confirmed to be lead-containing (<0.5% by weight) and should be disclosed to the demolition contractor, and are subject to waste determination procedures.

Lead-Containing Paint (LCP)

- Steel – Silver – Located on Guardrails
- Metal – Silver – Located on Understructure Support of Bridge.
- Asphalt – White – Located on road surface.

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 with construction debris; however, the waste hauler and landfill must be notified that they are receiving a Category 1 non-friable asbestos material. If the material is removed as an asbestos removal project it should be disposed of as non-friable 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 0.1f/cc or the excursion limit of 1.0 f/cc.

Asbestos-containing materials or trace-1% asbestos materials were not identified during the 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 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 regulated by 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 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. Since LCP was identified, TCLP waste characterization would be a standard industry approach.

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 material. 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 building has 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

SAMPLE LOCATION DRAWINGS

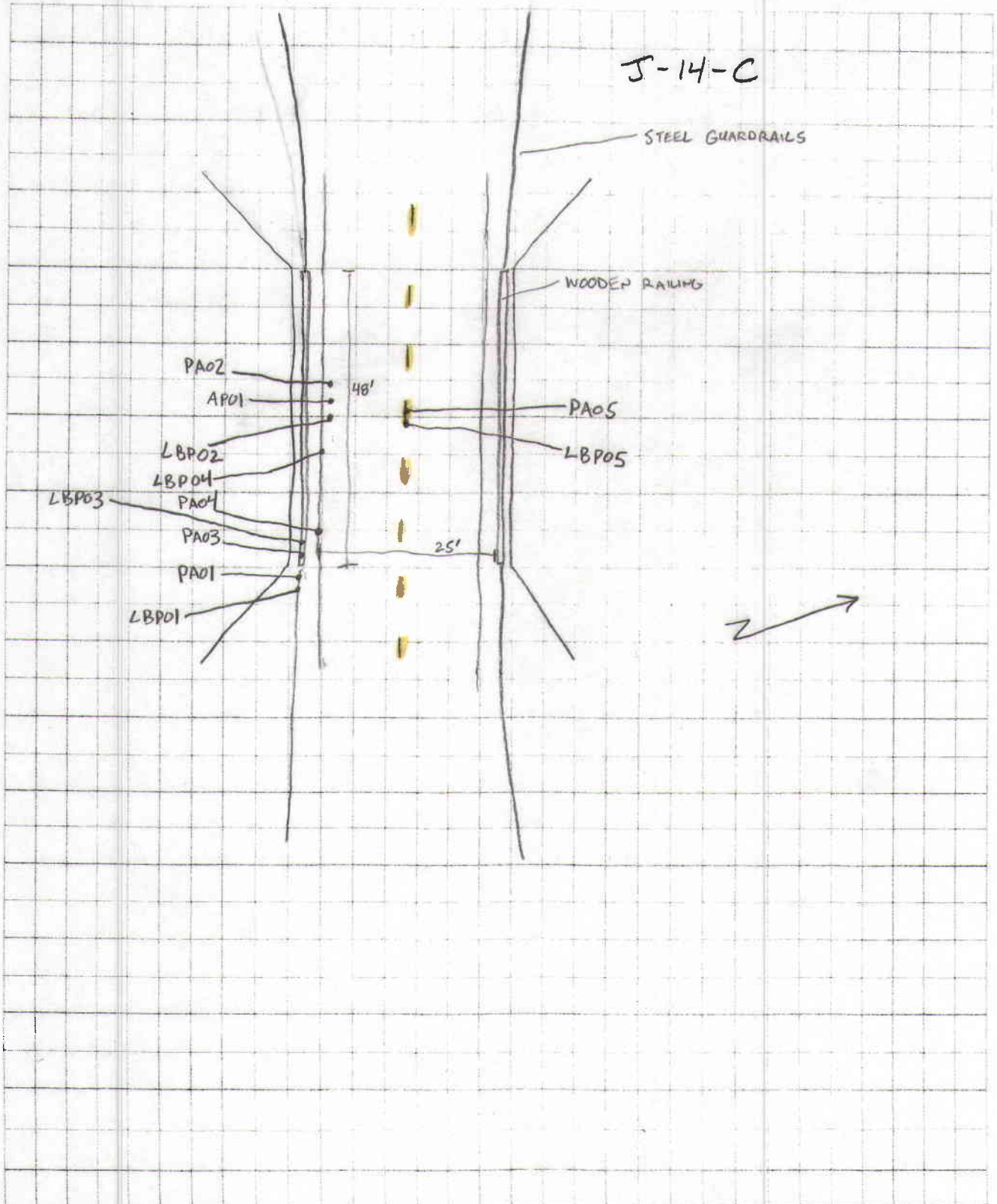
(Asbestos and Paint Sample Locations)

DAILY FIELD DRAWING

Project: REG 2 SH9 CDOT BRIDGES

Date: 2 12 12

Day: THU



APPENDIX B

FIELD INSPECTION FORMS

WALSH Asbestos Inspection Form

Name AARON ARDOUREL
 Project REG 5M 9 Date 2/2/12

Building J-14-C

Homogeneous Area # AP01
 Amount of material: 1,200 SF

Description of Material: ASPHALT W/ BLACK TAR

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

Sample #	Location	Lab Result
<u>01</u>	<u>NEAR S END OF BRIDGE ROAD SURFACE</u>	<u>ND</u>

Condition	Deterioration	Sig Damaged	Damaged	Good
Friable _____	_____	_____	<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: _____

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: _____ Inspector Signature: [Signature]

WALSH Asbestos Inspection Form

Name AARON ARDOUREL
 Project REG 1 SH 9 Date 2/2/12

Building J-14-C
 Homogeneous Area # PA01
 Amount of material: 1,950 SF

Description of Material: SILVER PAINT ON GUARDRAILS

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
	<u>NEAR SE CORNER OF BRIDGE ON GUARDRAIL</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: _____

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 [Signature]

WALSH Asbestos Inspection Form

Name AARON ARDOUREL
 Project REG 2 Date 2/2/12

Building J-14-C Homogeneous Area # PA02
 Amount of material: 100 SF

Description of Material: SILVER PAINT ON METAL UNDERSTRUCTURE SUPPORT OF BRIDGE

Type of Suspect Material: _____ Surfacing _____ TSI X Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NEAR SOUTH SIDE ON METAL UNDERSTRUCTURE, NEAR CENTER</u>	<u>ND</u>

Condition	Sig. Damaged	Damaged	Good
Friable <u>X</u>	<u>X</u>		
Non-Friable <u>☐</u>	<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>		<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
- X _____ 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: [Signature]



WALSH Asbestos Inspection Form

Name AARON ARDOUREL
 Project REG 2 SH 9 Date 2/2/12

Building J-14-C Homogeneous Area # PRO3
 Amount of material: 650 SF

Description of Material: WHITE PAINT

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

Sample #	Location	Lab Result
<u>01</u>	<u>WOODEN RAILING NEAR SE CORNER OF BRIDGE</u>	<u>ND</u>

Condition	Sig. Damaged	Damaged	Good
Friable <u>X</u>	_____	<u>X</u>	_____
Non-Friable _____	_____	<u>X</u>	_____
	Deterioration _____	_____	_____
	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: _____

Physical Classification

- _____ Damaged or significantly damaged thermal system insulation (TSI)
- _____ Damaged friable surfacing ACBM
- _____ Significantly damaged friable surfacing ACBM
- X _____ 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: [Signature]



WALSH Asbestos Inspection Form

Name AARON ARDOUCEL
 Project REG 2 SH9 Date 2/2/12

Building J-14-C Homogeneous Area # PA04
 Amount of material: 96 LF

Description of Material: WHITE ROAD PAINT

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NEAR S END OF ROAD SURFACE NEAR SE CORNER</u>	<u>ND</u>

Condition	Sig. Damaged	Damaged	Good
Friable _____	<u>X</u>	_____	_____
Non-Friable <input checked="" type="checkbox"/>	<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
- _____ ACBM with potential for damage
- _____ ACBM with potential for significant damage
- Any remaining friable ACBM or friable suspected ACBM

Comments: _____

Assistant Name: _____ Inspector Signature: [Signature]

WALSH Asbestos Inspection Form

Name AARON ARDOUREL
 Project REG 2 SH 9 Date 2/2/12

Building S-14-C

Homogeneous Area # PA05
 Amount of material: 20 LF

Description of Material: YELLOW ROAD PAINT

Type of Suspect Material: _____ Surfacing _____ TSI _____ Miscellaneous

Sample #	Location	Lab Result
<u>01</u>	<u>NEAR CENTER OF BRIDGE SURFACE</u>	<u>ND</u>

Condition		Sig. Damaged	Damaged	Good
Friable	Deterioration	<u>X</u>		
Non-Friable <input checked="" type="checkbox"/>	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: _____

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 Lead Inspection Form

Name: AARON ARBORELL

Project: REG 2 SH9 Date: 2/2/12

Building: J-14-C

Amount of material: 1,950 SF

PAINT SAMPLING:

Description of material: SILVER PAINT ON GUARDRAILS

Sample #	Location	Lab Result
<u>LBPO1</u>	<u>STEEL GUARDRAILS NEAR SE CORNER OF BRIDGE</u>	<u>0.040%</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GENERAL CONDITION OF PAINTED SURFACES:

	Sig. damaged	Damaged	Good/Intact
Deterioration	_____	_____	<u>X</u>
Water damage	_____	_____	<u>X</u>
Physical damage	_____	_____	<u>X</u>

Comments: _____

SOIL AND DUST SAMPLING:

Sample #	Type	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Comments: _____

WALSH Lead Inspection Form

Name: AARON ARBOREL

Project: REG 2 SH9 Date: 2/2/12

Building: J-14-C

Amount of material: 100 SF

PAINT SAMPLING:

Description of material: SILVER PAINT ON METAL UNDERSTRUCTURE SUPPORT

Sample #	Location	Lab Result
<u>LBPO2</u>	<u>UNDERSTRUCTURE NEAR SOUTH CENTER</u>	<u>0.084%</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GENERAL CONDITION OF PAINTED SURFACES:

	Sig. damaged	Damaged	Good/Intact
Deterioration	<u>X</u>	_____	_____
Water damage	<u>X</u>	_____	_____
Physical damage	<u>X</u>	_____	_____

Comments: _____

SOIL AND DUST SAMPLING:

Sample #	Type	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Comments: _____

WALSH Lead Inspection Form

Name: AARON ARDOUREL

Project: REG 2 SH9 Date: 2/2/12

Building: J-14-C

Amount of material: 650 SF

PAINT SAMPLING:

Description of material: WHITE PAINT ON WOODEN RAILINGS, SIDES OF BRIDGE

Sample #	Location	Lab Result
<u>LBPO3</u>	<u>NEAR SE CORNER OF BRIDGE</u>	<u>4.518%</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GENERAL CONDITION OF PAINTED SURFACES:

	Sig. damaged	Damaged	Good/Intact
Deterioration	_____	<u>X</u>	_____
Water damage	_____	<u>X</u>	_____
Physical damage	_____	<u>X</u>	_____

Comments: _____

SOIL AND DUST SAMPLING:

Sample #	Type	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Comments: _____

WALSH Lead Inspection Form

Name: AARON ARDOUREL

Project: REG 2 SH9

Date: 2/2/12

Building: J-14-C

Amount of material: 96 LF

PAINT SAMPLING:

Description of material: WHITE ROAD LAKE PAINT

Sample #	Location	Lab Result
<u>LBP04</u>	<u>NEAR SOUTH CENTER OF BRIDGE SURFACE</u>	<u>0.010%</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GENERAL CONDITION OF PAINTED SURFACES:

	Sig. damaged	Damaged	Good/Intact
Deterioration	<u>X</u>	_____	_____
Water damage	<u>X</u>	_____	_____
Physical damage	<u>X</u>	_____	_____

Comments: _____

SOIL AND DUST SAMPLING:

Sample #	Type	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Comments: _____

WALSH Lead Inspection Form

Name: AARON ARDOUREL
Project: REG 2 SH9 Date: 2/2/12

Building: J-14-C

Amount of material: 20 LF

PAINT SAMPLING:

Description of material: YELLOW ROAD PAINT

Sample #	Location	Lab Result
<u>LBPO5</u>	<u>NEAR CENTER OF BRIDGE SURFACE</u>	<u>BRL</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GENERAL CONDITION OF PAINTED SURFACES:

	Sig. damaged	Damaged	Good/Intact
Deterioration	<u>X</u>	_____	_____
Water damage	<u>X</u>	_____	_____
Physical damage	<u>X</u>	_____	_____

Comments: _____

SOIL AND DUST SAMPLING:

Sample #	Type	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Comments: _____

APPENDIX C

LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS

February 17, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 229473-1
Project # / P.O. # WA-000944-0160-10
Project Description: CDOT Region 1 HY 9

Aaron Ardourel
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 229473-1 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 Orr
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 229473-1**
 Client: **Walsh Environmental - (Colo. Springs)**
 Client Project Number / P.O.: **WA-000944-0160-10**
 Client Project Description: **CDOT Region 1 HY 9**
 Date Samples Received: **February 10, 2012**
 Analysis Type: **PLM, Short Report**
 Turnaround: **3-5 Day**
 Date Analyzed: **February 15, 2012**

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 (%)		
I-14-I-AP01-01	EM 862774	A	Black granular tar	100		ND	0	100
I-14-I-PA01-01	EM 862775	A	Gray paint	100		ND	0	100
I-14-I-PA02-01	EM 862776	A	White paint w/ glass beads	4		ND	0	100
		B	Black granular tar	96		ND	0	100
I-14-I-PA03-01	EM 862777	A	Yellow paint w/ glass beads	5		ND	0	100
		B	Black granular tar	95		ND	0	100
I-14-I-VB01-01	EM 862778	A	Brown fibrous material	100		ND	95	5
J-14-C-AP01-01	EM 862779	A	Black resinous tar	40		ND	0	100
		B	Black granular tar	60		ND	0	100
J-14-C-PA01-01	EM 862780	A	Gray resinous material	100		ND	0	100
J-14-C-PA02-01	EM 862781	A	Black/brown resinous material	100		ND	0	100
J-14-C-PA03-01	EM 862782	A	White resinous material	100		ND	0	100
J-14-C-PA04-01	EM 862783	A	Black resinous tar	20		ND	0	100
		B	White paint w/ glass beads	80		ND	0	100
J-14-C-PA05-01	EM 862784	A	Yellow paint w/ glass beads	100		ND	0	100
J-14-F-AP01-01	EM 862785	A	Black granular tar	100		ND	0	100

ND=None Detected

TR=Trace, <1% Visual Estimate

Trem-Act=Tremolite-Actinolite

Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile) if PLM results are ≤1%.

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 229473-1**
 Client: **Walsh Environmental - (Colo. Springs)**
 Client Project Number / P.O.: **WA-000944-0160-10**
 Client Project Description: **CDOT Region 1 HY 9**
 Date Samples Received: **February 10, 2012**
 Analysis Type: **PLM, Short Report**
 Turnaround: **3-5 Day**
 Date Analyzed: **February 15, 2012**

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 (%)		
J-14-F-PA01-01	EM 862786	A	Gray resinous material	100		ND	0	100
J-14-F-PA02-01	EM 862787	A	Gray granular material w/ black granular tar	100		ND	0	100
J-14-F-PA03-01	EM 862788	A	Yellow paint w/ glass beads	10		ND	0	100
		B	Black granular tar	90		ND	0	100
J-14-F-TA01-01	EM 862789	A	Black resinous tar	100		ND	0	100
J-14-F-VB01-01	EM 862790	A	Brown fibrous material	100		ND	95	5

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem-Act=Tremolite-Actinolite
 Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile) if PLM results are ≤1%.

Reservoirs Environmental, Inc.

RES 229473

Due Date: 2-15-2017

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

Due Time: 8:45

Page 1 of 2

INVOICE TO: (IF DIFFERENT)

SAMPLES SUBMITTED BY:

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

CONTACT INFORMATION:

Contact: Aaron Ardourel
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cell/pager: 1-719-482-0588
 Final Data Deliverable Email Address: csresults@walshenv.com
 aardourel@walshenv.com

Project Number and/or P.O. #: WA-000044-0160-10
 Project Description/Location: CDOT REGIONS 1 HY 9

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

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:

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

Client sample ID number	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-veg, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - BTEX, MTBE, 8260, GRO, DRO	OTHER	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hr/mm ap	EM Number (Laboratory Use Only)
1 I-14-I-4P01-01	X								5					862774
2 I-14-I-4P01-01														75
3 I-14-I-4P02-01														76
4 I-14-I-4P03-01														77
5 I-14-I-4P01-01														78
6 I-14-I-4P01-01														79
7 I-14-I-4P01-01														80
8 I-14-I-4P02-01														81
9 I-14-I-4P03-01														82
10 I-14-I-4P04-01														83
11 I-14-I-4P05-01														84
12 I-14-I-4P01-01	X													85
13 I-14-I-4P01-01														86

Number of samples received: 17

(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: *[Signature]* Date/Time: 2/9/12 1845
 Laboratory Use Only
 Received By: *[Signature]* Date/Time: 2/12/12 8:45
 Results: Contact Page Phone Email Fax Date Time Initials
 Carrier: *FedEx*

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



February 13, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 229474-1R
Project # / PO #: WA-000944-0160-10
Project Description: CDOT Region 1 HY 9 Lead

Aaron Ardourel
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 229474-1R 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, appearing to read "Jeanne Orr", is written over a light blue horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100

Denver CO 80216

TABLE ANALYSIS: LEAD IN PAINT

RES Job Number: **RES 229474-1R**
Client: **Walsh Environmental - (Colo. Springs)**
Client Project Number / P.O.: **WA-000944-0160-10**
Client Project Description: **CDOT Region 1 HY 9 Lead**
Date Samples Received: **February 10, 2012**
Analysis Type: **USEPA SW846 3050B / AA (7420)**
Turnaround: **3-5 Day**
Date Samples Analyzed: **February 10, 2012**

Client ID Number	Lab ID Number	Reporting Limit (%)	LEAD CONCENTRATION (%)
I-14-I-LBP01	EM 862791	0.003	0.563
I-14-I-LBP02	EM 862792	0.005	BRL
I-14-I-LBP03	EM 862793	0.006	BRL
J-14-C-LBP01	EM 862794	0.010	0.040
J-14-C-LBP02	EM 862795	0.004	0.084
J-14-C-LBP03	EM 862796	0.003	4.518
J-14-C-LBP04	EM 862797	0.003	0.010
J-14-C-LBP05	EM 862798	0.003	BRL
J-14-F-LBP01	EM 862799	0.007	1.157
J-14-F-LBP02	EM 862800	0.003	BRL
J-14-F-LBP03	EM 862801	0.005	BRL

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

Reservoirs Environmental, Inc.

RES 229474

Due Date: 2-15-217
 Due Time: 8:45am

Page 1 of 1

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

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Contact: Aaron Ardourel
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cellpager: 1-719-482-0588
 Final Data Deliverable Email Address: csresults@walshenv.com
 aardourel@walshenv.com

CONTACT INFORMATION:

Contact: Aaron Ardourel
 Phone: 1-719-227-0999
 Fax: 1-719-227-0491
 Cellpager: 1-719-482-0588
 Final Data Deliverable Email Address: csresults@walshenv.com
 aardourel@walshenv.com

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

Project Number and/or P.O. #: WA-000 944-0160-10
 Project Description/Location: C DOT REGG W 149 LEAD

PCMI/PLM/TEM	RUSH	24 hr.	3-5 day	Weekdays: 7am - 7pm	Saturday: 8am - 5pm	Request

PCMI/PLM/TEM	RUSH	24 hr.	3-5 day	Weekdays: 8am - 5pm	Request

Special Instructions: **Prior notification is required for RUSH turnaround.**

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.

Client sample ID number	(Sample ID's must be unique)	Requested Analysis	Valid Matrix Codes	Lab Notes
1	I-14-I-LB P 01	PCMI - Total, Respirable	Air = A	
2	I-14-I-LB P 02	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	Dust = D	
3	I-14-I-LB P 03	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	Soil = S	
4	I-14-I-LB P 01	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	Drinking Water = DW	
5	I-14-I-LB P 02	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	Waste Water = WW	
6	I-14-I-LB P 03	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	Other = O	
7	I-14-I-LB P 04	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.	**ASTM E1792 approved wipe media only**	
8	I-14-I-LB P 05	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		
9	I-14-I-LB P 01	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		
10	I-14-I-LB P 02	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		
11	I-14-I-LB P 03	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		
12	I-14-I-LB P 03	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		
13	I-14-I-LB P 03	PCMI - AHERA Level II, 7402, ISO, +/-, Quant.		

Number of samples received: 11 (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: *[Signature]* Date/Time: 2/9/12 1347
 Laboratory Use Only
 Received By: *[Signature]* Date/Time: 2/9/12 8:45
 Results: *[Signature]* Date/Time: 2/9/12 1347
 Carrier: *[Signature]*

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

APPENDIX D

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.

NON-FRIABLE - 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 E

CONSULTANT CREDENTIALS



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

Aaron Ardourel

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

BUILDING INSPECTOR

Course Date: April 4 - 6, 2011
Certificate No.: 11132
No. of Hours: 24
Expiration Date: April 6, 2012




Daniel R. Beaver - Instructor

STATE OF COLORADO

ASBESTOS CERTIFICATION*

Colorado Department of Public Health
and Environment
Air Pollution Control Division

This certifies that

Aaron Ardourel

Certification No: 14185

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: 4/8/2011

Expires on: 4/8/2012


Authorized APCD Representative

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