

**ASBESTOS AND LEAD BASED PAINT SAMPLING  
FOR RENOVATION & DEMOLITION  
CDOT BRIDGE P-06-H  
REGION 5  
U.S. HIGHWAY 160B MILE POST 1.042  
LA PLATA COUNTY, COLORADO**

**Prepared for:**

**COLORADO DEPARTMENT OF TRANSPORTATION  
Division of Administrative Services - Property Management  
15285 South Golden Road Building 47  
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**Attention: Mr. Phil Kangas**

**Project No. DN47,215.016-221**

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## ACRONYMS

### Commonly Used Acronyms

ACBM	Asbestos Containing Building Materials
ACM	Asbestos Containing Materials
AHERA	Asbestos Hazard Emergency Response Act
EPA	Environmental Protection Agency
HA	Homogeneous Area
HEPA	High Efficiency Particulate Air
HVAC	Heating Ventilation and Air Conditioning
NESHAP	National Emission Standards for Hazardous Air Pollutants
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PCM	Phase Contrast Microscopy
PLM	Polarized Light Microscopy
RBM	Regulated Building Material
TEM	Transmission Electron Microscopy
TSI	Thermal System Insulation



## 1.0 INTRODUCTION

Colorado Department of Transportation retained CTL | Thompson, Inc. (CTL) to perform an asbestos survey and lead based paint sampling of Bridge No. P-06-H located off U.S. Highway 160B near Mile Marker 1.042 in La Plata County, Colorado. The Site consists of a 163-foot by 23.9-foot Pony Truss-type bridge built in 1932. The bridge is scheduled for demolition and replacement. Mr. Tim J. Ponder, certified CDPHE Asbestos Inspector Cert#: 13853, performed the asbestos survey on November 25, 2014. We observed and sampled suspect asbestos containing building materials and lead based paint on the structure. All observed suspect asbestos containing building materials were sampled according to AHERA regulations.

## 2.0 ASBESTOS METHODOLOGY

The purpose of the asbestos inspection was to identify the condition and location of friable and non-friable asbestos materials that are present on the bridge structure. During the asbestos materials survey, CTL performed the following tasks:

- Inspected accessible areas for suspected asbestos materials;
- Determined friability of suspected asbestos materials by touching;
- Developed a sampling plan for each material based on the homogeneous material type, friability, accessibility, and material locations;
- Assessed the condition and potential hazards of the suspected asbestos materials;
- Collected samples of suspected homogeneous and non-homogeneous materials and submitted them for laboratory analysis by Polarized Light Microscopy (PLM); and,
- Documented findings and inspection protocol in accordance with accepted industry standards.



### 3.0 ASBESTOS INSPECTION PROCEDURE

Homogeneous suspect asbestos materials were identified by visually inspecting the bridge components. Based on our inspection, the following types of suspect asbestos-containing materials were identified:

- Miscellaneous
  - Black Fibrous Tar Coating – 1 Sample (ASB1-01)
  - White Pipe Caulk Galvanized – 1 Sample (ASB2-01)
  - Gray Cementitious Filler – 1 Sample (ASB3-01)

The inspection did not involve destructive observation methods. There may be areas warranting further investigation. If additional suspect materials are encountered during the demolition, CTL should be contacted for additional sampling.

#### 3.1 Asbestos Sample Collection

CTL collected bulk samples of the suspected friable and non-friable (that would become friable during demolition) asbestos materials in a random and representative manner as defined by the U.S. Environmental Protection Agency (EPA) statistical sampling methods. The collected samples were packaged in sealed and labeled containers.

#### 3.2 Asbestos/Lead Sample Analysis

The bulk samples of suspected asbestos and lead materials were submitted to Reservoirs Environmental for analysis. Reservoirs Environmental is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) (Lab Code 101896-0) and the American Industrial Hygiene Association (AIHA) (Accreditation Certificate #480). Individual layers of the samples were analyzed by PLM (Polarized Light Microscopy) to determine asbestos type and content. Unused portions of the samples were archived for



60 days, unless the client requested special handling. By regulation, any single positive asbestos sample classifies the entire homogeneous material as asbestos-containing and additional analysis is not required.

#### **4.0 ASBESTOS REGULATORY CRITERIA**

According to the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE), samples with asbestos concentrations greater than 1 percent ( $\geq 1\%$ ) are classified as asbestos containing materials and are a regulated material. If a building structure is scheduled for renovation or demolition, friable samples that contain *Trace* amounts of asbestos (1% or less) must be further analyzed by a more accurate point-count analysis to determine if they exceed the 1 percent threshold, or the materials must be assumed to contain asbestos and be classified as a regulated material.

The EPA and OSHA distinguish between friable and non-friable forms of asbestos materials. Friable materials can be crumbled or reduced to powder by hand pressure when dry. Non-friable materials cannot be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friable materials are more likely to be released into the air, especially if impacted or damaged during normal use, renovation, or demolition of a building. Therefore, the distinction between friable and non-friable asbestos materials is important. The EPA further segregates non-friable asbestos materials into Category I or Category II. Category I non-friable asbestos materials include floor tiles and roofing felts. Removal of these asbestos materials is not required prior to demolition as long as they are in good condition and not friable and/or rendered friable. Category II asbestos materials are all other non-friable asbestos materials, and may be required to be removed prior to demolition if those materials will be rendered friable.

Whether removed or remaining in a structure during demolition, the confirmed or presumed asbestos materials are subject to EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) and OSHA regulations. In 40 CFR 61.145, NESHAP



requires that each owner or operator of a demolition activity provide the administrator with written notice of intent. The CDPHE has implemented the NESHAP program.

## **5.0 ASBESTOS INSPECTION RESULTS**

Results of the asbestos analyses for the homogeneous materials collected from the building are summarized below. Laboratory reports for the samples are presented in Appendix B.

The bridge is a 163-foot by 29.8-foot metal and concrete structure. CTL collected three (3) samples of suspect asbestos containing building materials (ACBM) from the bridge. As shown on the attached laboratory report, none of the samples contained asbestos.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Asbestos**

Asbestos containing materials are regulated by the Colorado Department of Public Health and Environment (CDPHE), the U.S. Environmental Protection Agency (EPA), and the Occupational Safety and Health Administration (OSHA). However, no asbestos containing materials were identified on the bridge.

### **6.2 Lead Containing Paint**

Since the bridge is planned for demolition & replacement and the non-metal waste is planned to be placed in a landfill, we conducted sampling for lead containing paint.



We collected six (6) paint chip samples as follows:

- Black & Red I-Beam Supports – 1 Sample (LBP1-01)
- Silver Lateral Supports/Utility Pipes – 1 Sample (LBP2-01)
- Red Lateral Supports/Utility Pipes – 1 Sample (LBP3-01)
- Yellow Lateral Supports w/Hanger – 1 Sample (LBP4-01)
- Gray Lateral Supports w/Hanger – 1 Sample (LBP5-01)
- Green Structural Elements – 1 Sample (LBP6-01)

As shown on Table 2 and presented in Appendix C, the paint samples contained lead. The six (6) paint samples from the bridge system (LBP1-01, LBP2-01, LBP3-01, LBP4-01, LBP5-01 & LBP6-01) contained lead concentrations that did exceed 20 times the TCLP hazardous waste limit of 5 parts per million (5 ppm), or 0.01%/100 ppm. Therefore a composite TCLP sample was necessary. The result of the TCLP analysis was beyond a readable limit result or BRL.

Note: Any contractor disturbing lead containing materials must comply with OSHA 29 CFR 1926.62 Lead in Construction Standard (Laboratory paint results are presented in Appendix C).

If we can be of further service discussing the contents of this report, please call us.

Very truly yours,

CTL | THOMPSON, INC.

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Certified Asbestos Inspector

Reviewed by:

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TJP:MLW/nt

Via ftp site





## SUMMARY OF FEDERAL AND STATE ASBESTOS REGULATIONS

OSHA: U.S. Department of Labor, Occupational Safety, and Health Administration, including but not limited to:

- Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite;
- Final Rules Title 29, Part 1910, Section 1325 and Part 1926, Section 1101 of the Code of Federal Regulations;
- Respiratory Protection Standard Title 29, Part 1910, Section 134 of the Code of Federal Regulations;
- Construction Industry Title 29, Part 1926, of the Code of Federal Regulations;
- Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations;
- Hazard Communication Title 29, Part 1926 Section 59 of the Code of Federal Regulations; and
- Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations.

DOT: U.S. Department of Transportation, including but not limited to:

- Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations.

EPA: U.S. Environmental Protection Agency, including but not limited to:

- Asbestos Hazard Emergency Response Act (AHERA) Regulation;
- Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763 Sub-part E of the Code of Federal Regulations;
- Training Requirements of (AHERA) Regulation;
- Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations;
- National Emission Standard for Hazardous Air Pollutants (NESHAPS); and



- National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, Sub-part M (Revised Sub-part B) of the Code of Federal Regulations.

CDPHE: Colorado Department of Public Health and Environment, including but not limited to:

- Air Quality Control Commission, Regulation No. 8, Part B “Emissions Standards for Asbestos”; and
- Hazardous Materials and Waste Management Division, 6 CCR 1007-2, Section 5 “Asbestos Waste Management.”



## APPENDIX A SITE PHOTOGRAPHS



APPENDIX B  
ASBESTOS LABORATORY RESULTS AND CHAIN OF CUSTODY



APPENDIX C  
LEAD PAINT LABORATORY RESULTS AND CHAIN OF CUSTODY



APPENDIX D  
CTL | THOMPSON CERTIFICATIONS